

PHILIPS' HUMAN GEOGRAPHIES

PRIMARY SERIES

By JAMES FAIRGRIEVE, M.A., and ERNEST YOUNG, B.Sc.

- BOOK I. CHILDREN FAR AWAY. 1s. 6d.
 BOOK II. HOMES FAR AWAY. 1s. 6d.
 BOOK III. THE BRITISH ISLES. 1s. 9d.
 BOOK IV. THE NEW WORLD. 1s. 9d.
 BOOK V. THE OLD WORLD. 1s. 10d.
 BOOK VI. EUROPE AND BRITAIN. 2s.

BY THE SAME AUTHORS

Crown 8vo. Cloth boards

PHILIPS' HUMAN GEOGRAPHIES

THE WORLD. 2s. 6d.

THE BRITISH EMPIRE. 2s. 6d.

BY THE SAME AUTHORS

Crown 8vo. Cloth boards

PHILIPS' HUMAN GEOGRAPHIES

FOR SECONDARY SCHOOLS

- BOOK I. THE BRITISH ISLES. 2s. 9d.
 BOOK II. THE ATLANTIC
 HEMISPHERE. 3s.
 BOOK III. EURO-ASIA. 3s. 6d.

These three books are also obtainable bound in one volume, entitled

201 A COURSE IN HUMAN GEOGRAPHY

Cloth boards, 8s. 6d.

67
 FIRST EDITION . . . June, 1920
 SECOND EDITION . . . July, 1921
 Reprinted . . . January, 1922
 Reprinted . . . September, 1922
 THIRD EDITION . . . March, 1923
 Reprinted . . . September, 1923

FOURTH EDITION . . . January, 1924
 FIFTH EDITION . . . July, 1924
 Reprinted . . . November, 1924
 SIXTH EDITION . . . June, 1925
 Reprinted . . . January, 1926
 Reprinted . . . July, 1926

CONTENTS

CHAPTER	PAGE
I. THE EMIGRANT	1
II. THE INDIANS OF THE PLAINS	11
III. THE FUR TRADERS	22
IV. THE HIGHLANDS OF THE WEST	33
V. COLUMBUS AND THE WEST INDIES	39
VI. THE LOWLANDS OF THE AMAZON AND THE HIGHLANDS OF THE ANDES	46
VII. THE ARGENTINE AND CATTLE	55
VIII. THE PATAGONIAN INDIANS	66
IX. THE WAY TO THE INDIES	75
X. TEA CLIPPERS TO INDIA	83
XI. THE WAY FROM INDIA TO-DAY	87
XII. THE PYGMIES OF THE FOREST	95
XIII. THE NEGROES OF THE SUDAN AND THE ZULUS OF SOUTH AFRICA. THE GRASS LANDS	104
XIV. THE ARABS OF THE DESERT	112
XV. THE NILE AND EGYPT	121
XVI. INDIA, WHERE TEA GROWS	128
XVII. THE PEOPLES OF INDIA	137
XVIII. CHINA	150
XIX. JAPAN	166
XX. THE LAND WAY FROM CHINA	175
XXI. STEPPES AND STEPPE DWELLERS	181
XXII. THE CHRISTMAS PUDDING	188
XXIII. THE SWISS ON THE ALPS	198
XXIV. THE SAILORS OF THE NORTH	206
XXV. THE BRITISH EMPIRE	217

HUMAN GEOGRAPHY

THE WORLD

BY

J. FAIRGRIEVE, M.A., F.R.G.S.

RECOGNISED TEACHER OF THE UNIVERSITY OF LONDON IN THE THEORY
AND PRACTICE OF EDUCATION; FORMERLY GEOGRAPHY MASTER
WILLIAM ELIS' SCHOOL
AUTHOR OF "GEOGRAPHY AND WORLD POWER," ETC.

AND

ERNEST YOUNG, B.Sc., F.R.G.S.

FORMERLY HEADMASTER OF THE COUNTY SCHOOL, HARROW
AUTHOR OF "A RATIONAL GEOGRAPHY," ETC.

WITH NUMEROUS MAPS AND ILLUSTRATIONS

SIXTH EDITION

LONDON

GEORGE PHILIP & SON, LTD., 32 FLEET STREET

Liverpool: PHILIP, SON & NEPHEW, Ltd., 20 Church Street

1926

(All Rights Reserved)

INTRODUCTORY NOTE

THIS book is intended for children of about the ages of 11 or 12. It covers the whole world in broad outline and can be used independently of any other series of books, but perhaps most effectively as an introduction to the Human Geographies, Secondary Series. These latter books deal with the world on a regional basis and in considerable detail. The present book gives the framework into which all other subsequent studies can be fitted.

This book follows the lines of the Human Geographies, Primary Series inasmuch as it lays emphasis everywhere, not on place-names and statistics, but on the interaction between man and his environment. It is full of pictures of human life, lived under many varying conditions.

At the same time care has been taken that all essential geographical ideas are introduced and that practically all important places and areas are referred to as settings to the pictures. By this means geographical facts are seen not only in their proper relations, but in their proper perspective. An attempt has been made to introduce geographical ideas gradually and in such a way that a picture of the world as a whole is eventually built up.

The authors have a wider aim than the mere teaching of a certain number of geographical facts. They believe that only by a sympathetic understanding of the conditions under which other peoples live can the modern democracies realise their own position in the scale of things, and extend that tolerance towards other peoples which they expect other peoples to extend towards themselves. And this conception of the world as one big co-operative society cannot be taught too early or too often.

HUMAN GEOGRAPHY

THE WORLD

CHAPTER I

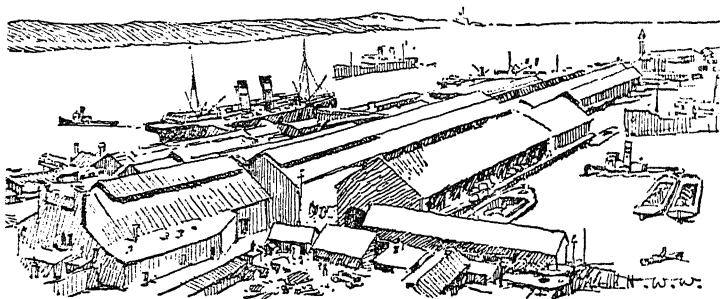
THE EMIGRANT

OCCASIONALLY we hear a great deal about emigration, and there can be few of us who have not some friend who has left the motherland to live in another part of the world. Men emigrate for different reasons; perhaps the commonest is the desire to farm. In the British Isles farms are few and dear. In America, and in some other parts of the world, land is plentiful and can be had for little or nothing. So adventurous spirits go off to seek a life in the open air—a hard life, it is true, but one where hard work brings a due reward.

It is fortunate for those of us who stay at home that so many of our countrymen wish to go abroad, because we do not grow nearly enough food for our own use and we require abundant supplies from over the seas. The most important food-stuff we import in large quantities is *wheat*. And some of the biggest, cheapest and most fertile wheat lands are in

America. Let us imagine, then, that one of us wishes to go to America to grow wheat.

America is away to the west, and is separated from Britain by miles of ocean, so, we must make the journey by ship. Suppose we start from Liverpool, on the estuary of the Mersey. This estuary is sheltered from all winds except the north-west, and is cleaned out twice a day by the rush of a swift tide that rises as much as 26 feet at the mouth. Dredgers are always at



EMIGRANT VESSEL AT LIVERPOOL DOCKS.

work to help the tide to keep a deep clear channel. There are 35 miles of quays at the port, and there are huge warehouses where the goods that go in and out of the port are stored.

The wheat lands of America lie near the centre of the continent, and before we can reach them we must leave the ship and take to the railway. There are several sea-routes by which we may travel and several points at which we may land.

Look at a globe and you will see that the shortest way of all is round the southern end of the ice-clad island of *Greenland*, through *Hudson Strait* and into *Hudson Bay*. But we cannot go by this route, for there are few steamers to *Hudson Bay* and no railways from *Hudson Bay* to the wheat lands. *Hudson Strait* and *Hudson Bay* and the northern seas generally are frozen over for the greater part of the year. The farther north we go the colder is the climate

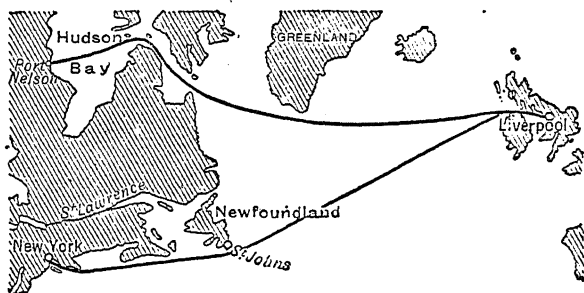


FIG. 1.—MAP TO SHOW THAT THE SHORTEST WAY TO THE WHEAT LANDS IS BY HUDSON BAY.

and the longer the period of the year during which the sea is frozen. At the North Pole there is ice for twelve months. In *Hudson Strait* there is ice for nine months, from November to July.

An easier way is by the *River St. Lawrence*. If we choose this route we pass *Newfoundland* nearly 2000 miles from *Liverpool*, about five days after we lose sight of the Irish coast. *Newfoundland* lies at the entrance to the Gulf

of St. Lawrence, where the entrance is so wide that it looks like an arm of the sea. After a while, however, the gulf narrows and densely wooded hills are seen on either side. Little white villages with tinned church spires and dark woods drive past, and presently the boat is drawn up in the dock at Quebec.

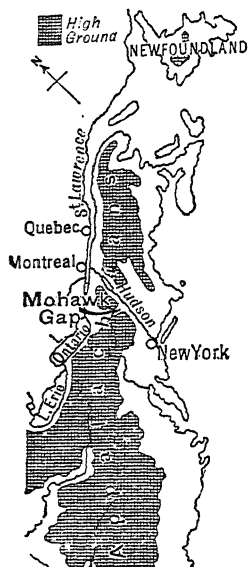


FIG. 2.—MAP TO SHOW THE APPALACHIANS AND THE MOHAWK GAP.

The shores of the St. Lawrence are also frozen over in winter for three months, and so we should be more likely to sail to a port still farther south. But farther south a new difficulty appears. It is easy enough to land on the east coast of America, but it is not so easy to get inland, for, not far from the coast, there is a long stretch of hilly land—the *Appalachian Mountains*. It was these mountains that kept the early settlers from reaching the plains. The land is not really very high,

but it was densely covered with forests and infested with wild animals and wilder Indians. The only possible roads were along the valleys of the rivers and the smaller streams, and they were mostly difficult. But at one point, and one point only, the mountains are cut through

from north to south by the rivers *Hudson* and *Richelieu*, giving an easy route from the St. Lawrence to the ice-free sea. And at one point on the Hudson, the valley of the *Mohawk* river gives another easy road to the west and the western plains.

At the door of these only easy ways across the Appalachians stands the city of *New York*, and because it is at the door, it has become the principal city of North America; more than half the foreign trade of the United States passes through it. As we sail into the harbour we are surrounded by forests of masts and steamboat funnels; steamers are passing out laden with grain, meat, tobacco, petroleum, and many other things.



FIG. 3.—PLAN OF NEW YORK.

In front of us rise huge buildings called “sky scrapers”; much of New York is built at the southern end of Manhattan Island, and as the space is small the buildings have to climb heavenwards instead of spreading out sideways. In the city itself we shall find miles of streets of shops, some of them small, but some of them big enough to employ several hundred clerks and shop-assistants. The people

who live in the city have to live in flats, and because land is so valuable, there are no front gardens or backyards, and the only playgrounds for the children are the streets. To escape the crowded city tens of thousands of men travel ten to forty miles into the country every day. Part of the journey is made upon elevated railways that are raised high over head on iron columns.

We leave New York by train and pass through the Hudson-Mohawk gap only to find that something else is in the direct way—a group of five enormous lakes. To avoid these the train may make for the southern end of lake *Michigan*, after which we are free to travel north-west, west, or south-west as we please. You can see from a map that all the roads from New England and from the states round about New York must go through this point before they can pass round the Great Lakes and away to the west. Here then we should expect to find another big city, and we find what we expect. It is *Chicago*, the greatest railway centre in the world.

From Chicago we make our way to *Winnipeg*, in the centre of the Canadian wheat fields. After leaving the train we go to the Government Land Office and are shown a plan like that in Fig. 4. It is divided into blocks, six miles square, and is called a township. Each township is divided into thirty-six sections, and each

section into quarter-sections. If a man be over eighteen years of age, he can choose any even-numbered quarter-section he pleases, and it will be given to him for nothing if he will live on it and farm it for three years. Sections 11 and 29 are, however, kept to provide money for the schools that will be wanted later on, and Sections 8 and 26 belong to the Hudson Bay Company.

We find our quarter-section, with the help

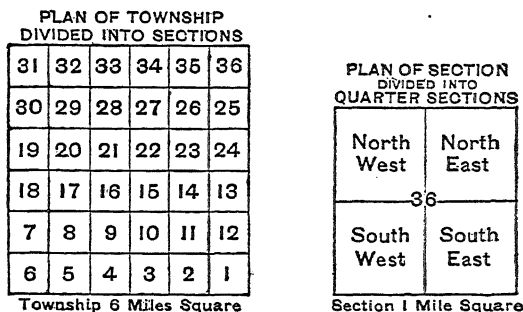


FIG. 4.—A TOWNSHIP PLAN.

of a guide, and then the pleasure and the trouble begin. The first thing is to build a wooden house and put in a stove with which to warm it in winter when the weather will be very cold. Then we dig the garden and put up the fence, after which we set to work upon the farm itself.

Ploughing begins in the autumn and “goes on steadily until stopped by frost in November or December. In April the land is

seeded with wheat, after which the ploughing is completed and the oats and other crops put in. Then the farmer waits for the harvest, busying himself meanwhile with his dairy cattle and the cultivating of the potatoes and other roots, or in breaking up fresh prairie lands. In July the hay is cut, dried in the sun, and stored in the barns or in stacks. If many cattle are kept, the green Indian corn is cut and stored, to be pressed and used as winter food for the milch cows. As the wheat begins to head out,



CANADIAN WHEAT FIELDS.

the western farmer casts many an anxious glance at the weather probabilities, for occasionally a late night-frost comes at this season and damages his crop. In August the wheat is ripe and the harvest begins. The grain is rapidly cut and bound into sheaves by machines called *binders*. In the east it is stored in barns to be threshed later, but the crop is too large for this in the west, so it is hauled to a stack and piled ready for the threshers. Just before cutting, the western wheat-fields present a lovely picture.

As far as the eye can reach, the grain waves and ripples to the warm summer breeze like a sea of gold.

“As soon as the grain has been cut and stacked, comes the threshing—a most important part of the work. In the west the people live far apart, so a threshing gang goes with the mill. They sleep in a large conveyance somewhat like a car, which is drawn from place to place by the traction engine which draws the threshing machine and supplies the driving power when the mill is at work. As the hum of the threshing machine begins the scene is a lively one and worth the watching. Every man has his appointed place, and the stack of grain grows rapidly smaller as the pile of straw heaps up and the bags are filled with bright clean grain. As soon as threshing is over, the farmer hauls the grain to the nearest railway station, where it is sold and stored in the elevators ready for shipment to the east over the Canadian Pacific Railway.” *

It will be seen that we must expect to be kept pretty busy throughout the whole year. And the women will have to work as hard or even harder. They can rarely get domestic servants and have to do all their own house work—cleaning, cooking, and baking. They are far from any doctor, and must be nurse and physician. There are no shops, and they must

* *Canada*, E. Peacock.

be ready to make their own clothes and make or repair those of the men as well. And in the busiest times they must help on the farm itself, tend the chickens, milk the cows, hoe, make hay, and even drive the plough. The wife of a Canadian farmer works a great deal harder than any domestic servant in the mother-land.

As we stand upon the land that is to be ours and think that it cost nothing, that we are to live a free life in the fresh air, the life of the wilderness, and that perhaps in due time we shall have made a fortune, it all sounds very attractive. But the work is hard, and if we are not active, strong, and industrious we shall soon be disappointed. The cold of the coming winter will be severe. There are no neighbours near at hand and we shall suffer loneliness. If we want to travel we shall find few roads and most of those bad ones. There will be no amusements such as we know in towns; there will be little comfort and few friendly calls by visitors. But we shall be free men and women, and freedom is worth a great deal to some people.

CHAPTER II

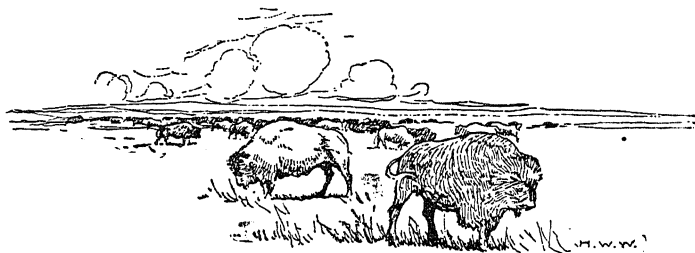
THE INDIANS OF THE PLAINS

AT the time when the Spaniards discovered America, the continent was inhabited by various native tribes from north to south and east to west. The natives lived chiefly near to water, but many of them roamed over the plains, hunting and fighting. Except for a few in the north they all belonged to various tribes of Red Indians, and these *tribes* were grouped together into *nations*. Some were savages, others were barbarians. They did not all live alike: there were fishermen and hunters, and there were a few who had learned to till the ground.

In the centre of North America where the land is flat and where the farmers we spoke of in the last chapter now raise miles and miles of golden grain, there was then nothing but grass which varied very much in length. In places it was so short that it looked like velvet; elsewhere it might be six or seven feet high. On these grassy plains or *prairies* there were few trees, except along the watercourses. During the winter the land is so cold that the rivers

freeze and snow falls to a considerable depth. In the spring the snow melts, the grass covers the earth as with a carpet, upon which great masses of red, blue, and yellow flowers weave bright and fanciful patterns. The rain ceases in the early part of the summer and then the flowers wither and the grass turns brown.

Upon the prairies lived the *bison*, in such numbers that they often made big black patches on the landscape. The bison is a very curious-looking animal. The shoulders and chest are



HERD OF BISON.

massive and strong, but the hind quarters are small and smooth and quite out of proportion to the rest of the animal. The hind legs are small and stand close together; the forelegs are thick, short, and far apart. The head is huge, hangs low down, and is covered with long shaggy hair matted together and hiding the face. Out of the hair peep the tips of the crescent-shaped horns. There is a big hair-covered hump at the front end of the body and a short tail with a tuft on it at the other end.

There were other animals on the prairie besides the bison; amongst these were the antelope, the prairie-dog, and various kinds of deer.

The Indians who lived on the plains depended on these animals for their existence. They made their clothes from the skins of the deer and the mountain goat. The skins were washed in wood ashes and water and the hair scraped off. They were then pegged out on the ground or on a frame and well rubbed with animals' brains. Finally they were carefully scraped and pressed with a bone knife and held for several days in the smoke from a wood fire. At the end of this time they were soft and waterproof. All this work was done by the women.



A RED INDIAN.

The usual garments were a long coat, long leggings reaching from the ankle to the hips, and soft shoes or *moccasins*. They were commonly decorated with beads and porcupine quills. If a man had killed any enemies he stuck a few tufts of their hair in his leggings and his sleeves, and if he were a great warrior

he painted the story of his wonderful deeds upon his coat.

The dress of the women was very much like that of the men, but the cloak was longer.

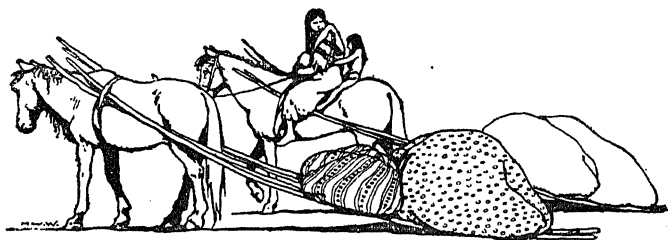
Both sexes usually possessed a big robe of bison skin for use in cold weather.

The constant pursuit of animals prevented the Indians from building stone or wooden houses. They were obliged to have a house



A RED INDIAN WIGWAM.

that they could carry with them on their never-ending wanderings. This was the *wigwam*, a kind of tent made of poles and skins. The poles were spread out at the base, but they met



A RED INDIAN WOMAN AND HER CHILDREN ON THE MARCH.

and were tied together at the top. The skin covering was often ornamented with paintings showing the brave deeds of the man who lived in the tent, and with tufts of hair from the

scalps of his enemies. There were no roads, and carts with wheels could not be used, but when the camp was moved, a horse was harnessed to the poles of the wigwam; the skins were placed on the poles and the women and children sat on top of the bundles.

The weapons of the Indian were wooden clubs, round shields made of bison hide, bows, arrows with stone points, and *tomahawks* or stone axes. To-day they have guns and steel knives.

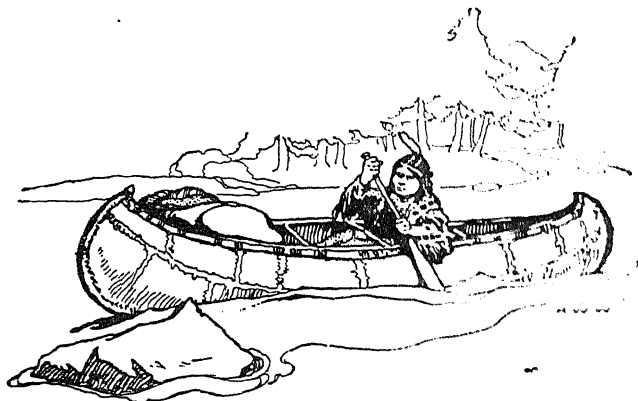
The chief food was the flesh of animals, birds, and fishes. Deer, bears, caribou, bison, antelope, fish, oysters, turkeys, grouse, and pigeons gave a fairly good choice of animal food. Then there were berries at certain seasons—raspberries, blackberries, and strawberries and such fruits as the wild cherry, small plums and walnuts, while the maple provided sweet juice and sometimes sugar.

The flesh of the bison was the commonest food and it was eaten in tender juicy steaks, in long dry strips, and as a fatty mess called *pemmican*. Pemmican is made by drying strips of bison meat and then pounding it up into a solid mass with equal quantities of melted fat. The tongue of the bison was the special dainty and the animals were slaughtered in hundreds simply for the sake of this tit-bit; the rest of the body was left as food for birds of prey.

Until the Europeans brought the horse to

America that animal was unknown, and when the Indians wanted to move on land they had to go on foot. On their winter excursions, when the ground was covered with snow, they used *snow-shoes*. A snow-shoe is something like a tennis racket but much larger; the large surface supports the wearer and prevents him sinking into the snow.

For journeys on the rivers they had various kinds of *canoe*; the chief kind was made of



A CANOE MADE OF BIRCH-BARK.

birch-bark fastened to a light wooden frame. It was lined with thin strips of cedar wood, and was both paddled and steered by one oar.

After the introduction of the *horse* the Indians became clever horsemen and used this animal not only for hunting and riding, but also to drag their wigwams and families from one camp to another.

By means of the canoes the Indians travelled in many directions and for long distances, because there are many navigable lakes and rivers in North America. If waterfalls or rapids interfered with the journey, the light canoes were carried along the *portages* or trails that led from one safe piece of water to another.

From the St. Lawrence they could get to lake *Ontario*. Between lakes *Ontario* and *Erie* are the famous *Niagara Falls*, a mile wide and 160 feet high. These are avoided now by a canal, but the Indians had to make a portage. At the western end of lake *Erie* they turned to the north and reached lake *Huron*. Another way



INDIAN MAKING A PORTAGE.

from the St. Lawrence was to go up the *Ottawa* river and make a portage over to a river that flowed down to lake *Huron*. At the north-western end of this lake there is a rapid river, but canals to-day enable a ship to pass forward and arrive in lake *Superior*, a lake as big as Ireland. From lake *Michigan*, which is really part of lake

Huron, a portage could be made to the *Illinois* river which flows to the *Mississippi*.

It was possible also to paddle up the *Nelson* river to lake Winnipeg, cross this lake and enter the *Red* river in the heart of what is now the golden wheat country. The river

gradually gets narrower and a little lake is reached. From this lake there is a stream leading to another small lake and thence into the *Minnesota*. Men could descend the *Minnesota*, carrying the canoe past rapids and shallow places and, in due time, enter the *Mississippi* near the great trading town of *St. Paul*. Once on the *Mississippi* they could sail

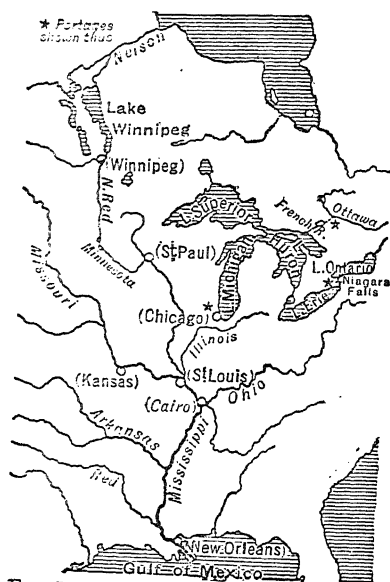


FIG 5.—MAP TO SHOW THE CENTRAL PLAIN OF NORTH AMERICA.

almost anywhere on the vast plains.

Nowadays the river is used by large steamers. At *St. Paul* we could now travel by a great flat-bottomed river-steamer and begin a journey down one of the most crooked rivers in the world. In one place the river turns and twists so much that it makes a journey of 1300 miles between

two points that are, in a straight line, only 625 miles apart. The Mississippi receives over fifty rivers which are navigable by steamboats, and hundreds that are navigable by ordinary boats. The area it drains would hold the greater part of Europe, and nearly all of it is fertile. The river brings down millions of tons of mud and deposits it near the mouth, where, as there is no tide to sweep it away, it forms a *delta*.

The water passages through the delta are often shallow and made dangerous by banks of sand and

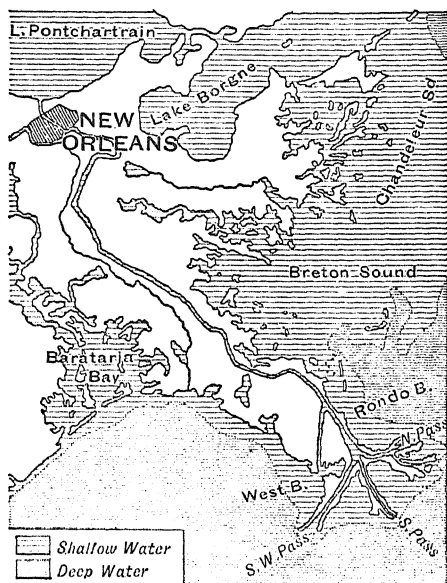
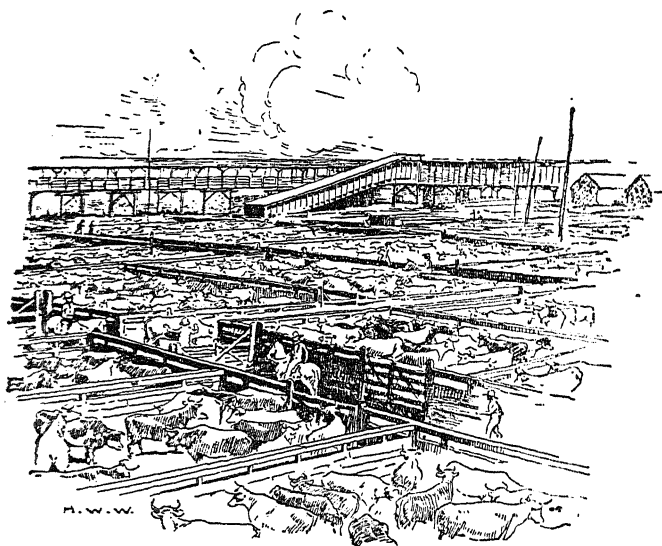


FIG. 6.—MAP TO SHOW THE DELTA OF THE MISSISSIPPI.

mud. Before dredgers were used, sailors avoided these dangerous passages and landed on an arm of the Gulf of Mexico at a point where a big bend in the river brings the river and the sea quite close together.

On the bend is *New Orleans*. The river at this point is too wide for a bridge and the

trains are carried across on ferries. French names to the streets, French houses in the town, and the use of the French language by many people remind us that New Orleans was once French. The French came in canoes *via* the St. Lawrence and lake Michigan and then



CHICAGO STOCKYARDS.

by the Illinois river to the Mississippi. As Montreal stands at the northern door, and New York at the eastern door, so New Orleans stands at the southern door to the continent.

Just as the canoe has given place to the steamer and the Indian to the white man, so the bison has given way to cattle. The cattle are

reared on the Great Plains, at the foot of the Rocky Mountains, and are sent to the eastern parts of the States, there to be eaten or to be sent still farther east to Europe, where population is dense and meat much in demand. The animals are exported alive or dead, and the most central spot for collecting them is Chicago. The railways from all the coast ports can reach this place more easily than any other, and Chicago is the biggest meat market in the world.

More than 150,000 animals are daily turned into beef, mutton, and pork. The stockyards contain miles of streets and over fifty miles of food troughs. The meat is exported frozen or turned into meat extracts. Margarine is made from the fat, buttons from the bones, combs from the horns and hoofs, and leather from the hides.

CHAPTER III

THE FUR TRADERS

WE have seen that North America was peopled chiefly by Indians who got their living by hunting. Part of the old hunting grounds is now covered with wheat fields and cattle ranches, but the northern half is still the home of the hunter.

Owing to the intense cold of the winter the animals that live in Canada have very thick skins and a covering of warm fur. White men, however, set great value by this fur on account of its beauty and warmth, and there are many men, both Indians and whites, who spend their lives hunting and trapping the wild fur-bearing animals of the north.

The hunting grounds differ in their climate, their vegetation, and the animals they produce. If we begin in the far north, on the shores of the frozen sea, we find men and animals who depend entirely on the sea for their living. The people who live in this frozen wilderness are the Eskimo, and they get everything they need from the sea, for, though it freezes on the surface, it does not freeze below, and in the unfrozen

ater there are always plenty of fish and plenty
the little creatures on which fish feed.
nimals that we think of as living on land



AN ESKIMO IN HIS KAYAK.

ke to the sea. There is the polar bear, for
stance. It can walk, but it can swim much
tter. The seal is much more at
ome in the water than on the
nd. The whale, which looks like
fish, is not really a fish at all.
breathes like a land animal, and
tually has legs, though these
n be seen only in the skeleton.
most the only land animal is
e fox; but it lives on birds that
ed on fish, so that the fox, too,
ally gets its food from the sea.

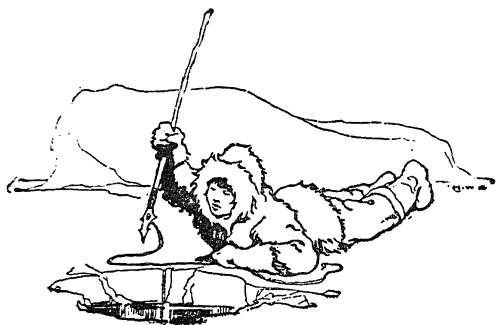
The hunter of the icy wastes
the Eskimo. He eats seal,
lrus, and whale. From the fat



ESKIMO HARPOONS.

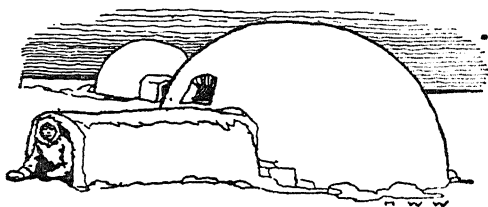
these animals he gets oil for light
d heat; from their skins he gets his clothes.
e only wood he ever sees is that which is drifted
him from other lands. He hunts in canoes

made of whalebone or driftwood and covered with skins. His chief weapon is the *harpoon*, made of driftwood and fitted with a sharp point of bone or stone. The chief fur-bearing animal



ESKIMO HUNTING THE SEAL.

of this region is the seal, though the skins of the Arctic fox and the polar bear are also valuable. In summer, when the sea is open, the Eskimo goes out in a canoe to hunt the seal, but



ESKIMO CREEPING OUT OF HIS SNOW HOUSE.

in winter, when the sea is frozen over, he lies by the side of the holes where the seals come up to breathe, and kills them with a spear.

South of the frozen ocean is a district called

tundra in Europe and Asia, but known as the *Barren Grounds* in North America. In the winter it is frozen into a barren wilderness; in the summer it thaws into a swamp and is then alive with flowers and mosquitoes. The chief plants are mosses and lichens which do not die in winter and are therefore available for any animals that can manage to face the icy gales of that season. Almost the only land animal that can remain on the tundra at all seasons is the *musk-ox*, which finds its food by scraping away the thin layer of snow. It is stoutly built, and is covered with long brown hair that reaches nearly to the ground. Beneath this is the thick layer of fur for which it is hunted. The fur is shed in summer, and therefore the hunter must set about his business in the winter, when the weather and the loneliness of the region are at their worst. Only the hardest, the strongest, and the most experienced Indians ever go to the Barren Grounds in the winter, and to be a musk-ox hunter is the ambition of all those who think themselves possessed of unusual courage, skill, and endurance. The hunters travel on snow-shoes and take all their equipment on dog-drawn sledges. As there are no trees on the tundra, there is no wood for fuel, and sufficient supplies of either oil or wood must be taken if hot food or drink is required.

Another animal of the tundra is the *caribou*, a kind of reindeer. But the caribou, like most

of the other land inhabitants of the tundra, leaves in the winter, as it is unable to stand the cold.

South of the tundra is a belt of pine forest stretching from Newfoundland and Labrador to Alaska. It is 600 miles broad and over 3000 miles wide, and is one of the biggest forests in

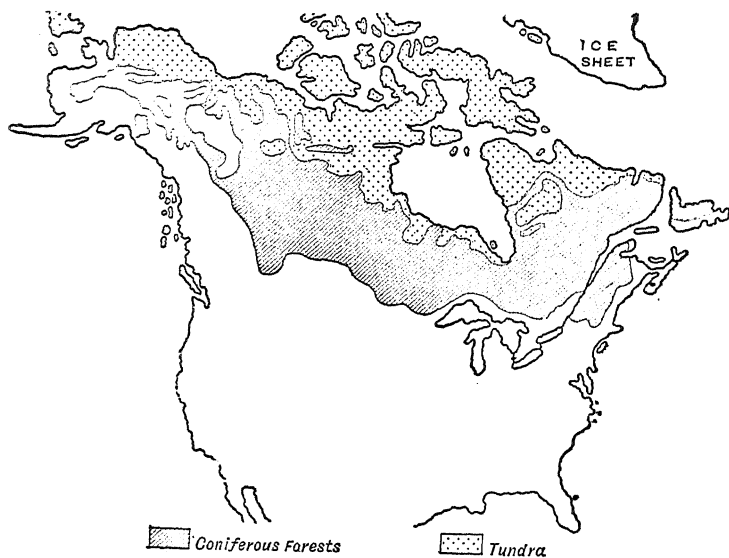


FIG. 7.—PINE FORESTS AND TUNDRA OF NORTH AMERICA.

the world. In all this area there are only about eight different kinds of trees, most of which are coniferous trees with needle-shaped leaves. The soil is poor, the winters cold, and the supply of moisture small. But as the coniferous trees grow slowly the poor soil does not matter much. The water taken in at the roots

cannot easily escape on account of the small thick-skinned leaves, so that the small amount of moisture also does not matter much, and during the winter no moisture is needed, for the tree then stops growing. This forest is the home of thousands of valuable animals and is the real home of the man who traps for his living.

The animals of the far north obtain their food from the sea; the animals of the forest live on plants and, fortunately, the trees of the Canadian forest keep their leaves all the year round, so that there is always food. No matter how deep the snow, the branches are never quite covered and their berries, nuts, and twigs are available all the winter. The forest, too, gives shelter, and it is therefore sought by a number of animals that live in other places in the summer. The caribou goes to the tundra in the summer but is at home in the forest in the winter. It cannot go into dense thickets, as it must have room for its broad antlers; it lives therefore in the more open spaces. It eats mosses and lichens and does not depend on grass, of which there is practically none in the forest. It can live either on the tundra or in the forest, for in both places it can find its food.

Then there are the bears, brown, black, and grizzly, which can climb trees and eat large amounts of vegetable food. Some of them are particularly fond of pine seeds, but will eat fish

and even insects. Bears, like caribou, are usually shot.

The animals specially hunted for their fur are the ermine, sable, fox, mink, and beaver. The beaver is the most interesting of them all. It lives in the numerous streams that thread the forest, and it fells trees and dams up rivers. The trapper goes alone or with a few friends, and when he arrives at the hunting grounds he carefully examines the creeks and the streams. He puts his traps in the runs, hiding them under water and attaching them by stout chains to bushes on the banks. A float is fastened to each trap to show where it is if the beaver manages to carry it away. Early in the morning the captured animals are killed and skinned, and the skins are dried and packed in bundles of ten or twenty. If the water is frozen over the homes of the beaver are destroyed and dogs are sent to discover the retreats of the frightened animals. At a spot indicated by the dog, the hunter cuts a hole in the ice and pokes about with a stick to see if the beaver is there. If it is, the man thrusts his bare arm into the hole, drags the beaver out on to the ice and kills it with a spear.

The life of the trapper is a hard and dangerous one. It is true that most of the creatures he hunts are small, but even some of these small creatures can be fierce when irritated, and the bear and the lynx are big and powerful enough

to be quite formidable enemies. In summer big black clouds of mosquitoes attack him ; animals like the wolverine steal his bait and his prey ; in winter the cold is intense and food is scarce. Houses are few and far between, and in time of trouble there is no one at hand to help. To lose the way or become benighted in the lonely forest is almost certain death. Very often the trapper has no shelter but the shanty that he erects for himself out of a number of poles and pieces of bark. One side of the shanty is left open, and in front of the opening the fire is built that keeps him warm.

The trapper, whether Indian or white, sets his traps in a long line perhaps ten to fifteen miles in length, and must visit them regularly to bring home the catch and re-set the traps with fresh bait. The Indian trapper wears, to protect himself from the cold, a large leather coat, a rat-skin cap, blue cloth leggings, large moccasins, two or three pairs of blanket socks, and deer-skin mittens.

He carries in his belt an axe and a large hunting knife, and over his shoulder his gun or rifle. He walks on snow-shoes and drags a small hand sledge behind him. This sledge is a flat slip of wood from five to six feet long and one foot broad, and is turned up at one end. It is extraordinarily light, and Indians invariably use it when visiting their traps for the purpose of dragging home the animals or game they

have caught. The trapper walks over the deep snow with long, regular firm steps, winds his way through the stems of the surrounding trees or pushes aside the smaller bushes. Though there be no track he goes swiftly forward as sure of his way as if a broad road lay before him. He



AN INDIAN TRAPPER WITH SLEDGE.

moves on for miles examining the newly made tracks of the animals ; suddenly a noise attracts his attention and a smile passes over his face, for the noise comes from one of his traps, and he knows that something has been caught. He enters the bushes, finds perhaps a beautiful black fox in the snare, hits it over the nose with

the handle of his axe and ties the dead body to his sledge. In a few minutes more the trap is re-set, and so covered with snow that it is almost impossible to tell that anything is there.

During the winter and early spring the trapper stores his furs, but when the ice begins to melt he sets off to carry his goods to one of the stations belonging to the Hudson Bay Company. From trapping ground to trading post is often a hundred miles or more. Sometimes five or six men travel together and pick up their wives and children *en route*. Then the women help to draw the sledge, and the babies are cradled on the bundles of furs.

When they arrive at the station the trapper exchanges the skins. All the bartering is done by reckoning in beaver skins ; so many martens, so many foxes, etc., are equal to one beaver. For each "beaver" the Indian gets a brass token which he carries to the store. There, for one "beaver" he can get two fish-hooks or one pound of shot ; five "beavers" will purchase an axe or one pound of gunpowder, while a pistol costs ten, a blanket twelve, and a gun twenty-five.

At the post there is a house for the manager with a well-kept yard and fence, a huge gate, a small garden, and some outbuildings for cows and chickens. At the store there is everything from pork and fish-hooks to sewing machines and gramophones.

At some central point stands the tall flag-staff from which the Hudson Bay flag is flown whenever a visitor arrives or departs. The Company controls a number of posts, each usually near the mouth of a river. At every station there are a manager, foreman and from two to twenty servants. Most people are to be met with in the summer, when the Indians come in to barter the furs. During the winter the place is almost deserted.

The managers are usually chosen when quite young men and are sent out on the annual ship. They get no holiday for eight years, and not always then. Twenty-five years' service without leave is not at all uncommon. The pay is small, but most of it can be saved, for the Company provides houses, food, and servants, and there is little on which to spend money in these out-of-the-world stations.

The emigrant who grows wheat in the prairies or tends cattle on the drier plains farther west may have a hard and lonely life, but the emigrant who seeks his living trapping the fur-bearing animals of the cold north has a much lonelier and harder life than either of the others.

CHAPTER IV

THE HIGHLANDS OF THE WEST

WHEN our supposed emigrant wanted to enter North America he found on the eastern side a highland barrier, the Appalachian Mountains. Had he tried to enter North America from the western side, he would have found a highland barrier very much longer and higher than anything in the east, and without any easy way from one side to the other. It is an enormous plateau more than a mile high and a thousand miles wide. The eastern edge of the plateau is the *Rocky Mountains*, and it stretches from the cold lands of the far north to the hot lands of *Central America*. The western edge of the plateau is also composed of high mountains—the *Sierra Nevada* and the *Cascade Mountains*. Between the mountains on the east and those on the west is the plateau, broadest in that part known as the *Great Basin*.

What a person sees who crosses the Rockies depends very much on whereabouts he tries to get across. If he begins the ascent at some point in the United States, he starts from a

grassy plain. A little higher up he comes to forests of trees that have broad leaves, such as the oak. Higher still would be the forests of trees having needle-shaped leaves like the pines and firs; then there would come small bushes, and, finally, nothing but snow and ice.

Having got to the top of the Rockies he would descend into the Great Basin, so called because it is shut in by ridges on all sides. The word *basin* suggests a hollow, but this basin is really a high plateau crossed as well as bordered by mountains. The Great Basin is a very dry region. Most of the winds come from the land and

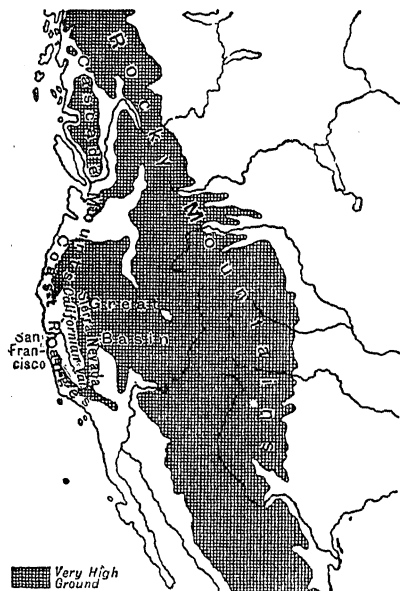


FIG. 8.—MAP TO SHOW THE HIGH GROUND IN THE WEST OF NORTH AMERICA.

are dry to begin with, and any winds, no matter from which direction they come, must first cross the mountain edges. In crossing they are cooled and deposit their moisture as rain before they get over. There are vast stretches of the Great Basin where one

can ride for miles and never see a bush or tree.

On the farther side the traveller would descend the steep slopes of the Sierra Nevada and enter a deep valley, the *Californian valley*. On the other side of this valley and close to the sea are the *Coast Ranges*.

If, instead of climbing the mountains, a man travelled north from the prairies he would pass through belts of plants very much like those he had reached by going up the sides of the mountains. North of the grasslands he would find forests, and still farther north the wilderness of snow.



MOUNT SIR DONALD, CANADIAN ROCKIES.

But he would have to travel many hundred miles along the earth to get from the prairies to the snows, whereas by going up the side of the mountains he can reach the snows in a few miles.

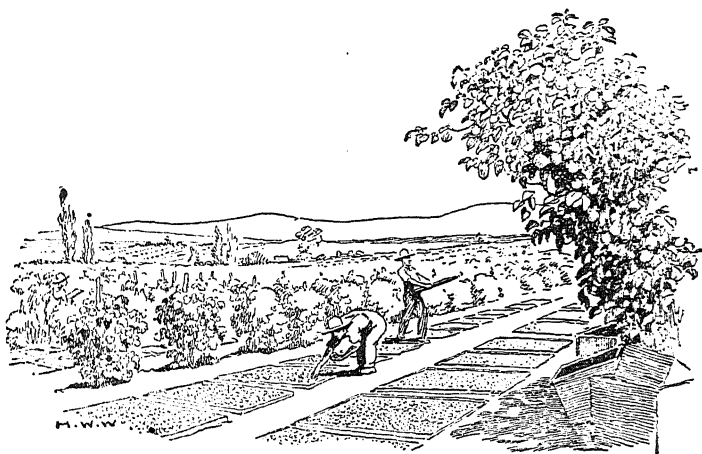
The west is certainly not a place where we should expect to find many people living. In the north there are a few hunters, and in the dry south there are a few Indians who are quite different from the Indians who used to live on the plains.

Here rain seldom falls, and the Indians live in houses made of stones and sun-dried bricks. The houses are called *hogans* and the bricks *adobe*. There is only one room in the hogan, but it is fairly comfortable, for it is wind-proof and cold-proof, and a fire can be lit in the middle. The adobe houses are, if possible, built near to good pasturage and water supply. The building of a new house is an easy matter, and the people can move about as they need, perhaps almost as easily as the dwellers in tents. This particular tribe of Indians raises sheep and goats and a small amount of agricultural produce. Their real wealth is sheep. From sheep they get food and wool, and the wool they make into beautiful blankets, which they exchange with the white man for many other things that they need.

The most important part of the western region is, however, the valley of California. It is filled with soil washed down from the mountains and is very fertile. The northern part of the Western Highlands is in the belt of westerly winds and gets rain all the year round; but in the valley of California rain falls only in

the winter. The summer is dry, warm, and sunny. This is the kind of climate that is suitable for fruit, and the valley is one of the greatest fruit-growing districts in the world.

There are acres and acres of orange and lemon groves, peach, plum, and olive orchards, and millions of grape vines. There are also



A FRUIT FARM IN CALIFORNIA.

vast fields filled with almonds, walnuts, figs, apricots and many other varieties of fruit. Fields, hundreds of acres in extent, are covered with trays filled with apricots, peaches, and figs drying in the sun, plums changing into prunes and grapes into raisins. Because the air is hot and dry the fruit dries without decaying. Thousands of pounds of dried fruit

including great quantities of raisins, are shipped every year to other parts of the world.

Only a few years ago these fertile farms were desert wastes. The soil was rich enough, but there was no water. By canals and ditches streams have been led from the mountains and the desert has given way to a land of plenty dotted with prosperous homes.

We saw that there was only one easy way through the eastern highlands, and that at the entrance to it stood the port of New York. On the west there is also only one break in the Coast Range all the way from Vancouver to the end of the peninsula of Lower California. Everywhere else roads would have to cross these mountains to get to the sea; here they need not do so. The railways from the north, south, and east come to this place to get to the Pacific, and here is *San Francisco*. It has a magnificent harbour called the *Golden Gate*.

Not many people live among the western highlands, for the land is high, dry, and far from the markets of Europe. The Californian valley is the largest area fit for settlement, and its biggest city is San Francisco. Wherever life is difficult, few people will care to live, and that is why the north and the west of America have such a small population. But in the east and the south-east, where men can "live well," are most of the inhabitants of North America.

CHAPTER V

COLUMBUS AND THE WEST INDIES

THE emigrants who wish to cross the Atlantic to-day, whether to trap animals, to grow wheat, or to rear cattle, find no difficulty in making the journey. But this was not always the case; there was a time when the ocean was looked upon with fear, and the sailor or fisherman who found himself so far from land that he could see nothing but sea and sky was apt to fancy that he was lost. There were even people who said that if a man went far enough across the water he would come to the edge of the world and fall off. The first sailors who chose to go so far from land that they could no longer see it were men of real courage.

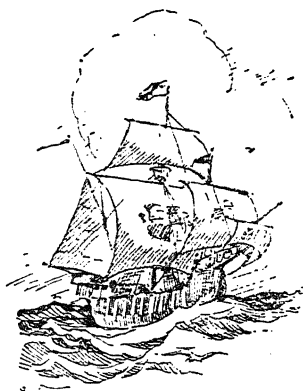
One of these was Columbus. For many years men had gone, partly by land and partly by water, to seek the riches of the Indies and bring them back to trade with in Europe. But much of this trade was interfered with by the Arabs, and men set their minds to work to discover new ways to the East. Columbus believed what no one else did, that the world was round, and that if ships sailed to the west they would, in time, come to the lands of the east,

to the Indies, so called because they were near to India.

As Columbus was not a rich man he was not able to hire a vessel or crew with which to make the attempt to find the new route. He went to the King of Portugal, but got no help from him ; then he went to the King of Spain, and this king promised to find ships and money

for the expedition on condition that all new lands that might be discovered should belong to him. Columbus agreed and got three ships with their crews, provisions, and tackle.

He set sail from the south of Spain in 1492 and crossed the ocean in a direction that is best understood by reference to the map in



OLD VESSEL OF THE TIME OF COLUMBUS.

Fig. 9. This shows the route he took and the winds he met with. He first sailed south because the winds from the south of Spain blow in that direction. Then the vessels were headed towards the south-west because the winds were from the north-east. The steady winds carried him quickly and smoothly westwards, very much to the distress of the crew, who began to fear that they would never be

able to sail home again against such constant winds. The men tried to persuade him to turn back, but he soothed their fears, and, in two months, he reached the other side of the Atlantic, where no one had ever been before.

The ships of Columbus were sailing ships, and whether they went fast or slow, or whether they went backwards or forwards, all depended on the wind. The winds from the north-east,



FIG. 9.—MAP TO SHOW HOW COLUMBUS WENT TO THE WEST INDIES AND CAME HOME AGAIN.

that blew him swiftly across the Atlantic, are steady winds that blow all the year round and almost seem to *tread* out a path for themselves; hence they are called the *Trade Winds*. There are two such belts of Trade Winds—the North-East Trades on the north side of the equator, and the South-East Trades on the south side of the equator.

The first land reached by Columbus was one of that group of islands that we now call the

Bahamas. When he landed he knelt and returned thanks to God for his safe journey, and took possession of the island in the name of the King of Spain. The natives came down to the shore to look in astonishment at these wonderful men with white skins and beautiful clothes and at their strange boats with white sails. They thought the ships were some kind of monstrous bird and that the visitors had come from another world. The natives were big and strong. They had coarse black hair ; they wore no clothes, but their bodies were painted in brilliant colours. They had spears tipped with fishbone, and canoes made out of a single tree trunk and capable of holding from forty to fifty men.

From the Bahamas Columbus sailed south and came to the large island of *Cuba*, of which he wrote : " It is very fertile, as in truth all the other islands are. One sees many high mountains covered with trees of great size. These trees are green in all seasons, for when I saw them they were as beautiful as the trees of Spain in May. Some of the trees were in blossom, while others were bearing fruit. Birds were singing in the forests in countless numbers, even though it was the month of November. The palm trees, of which there are seven or eight different kinds, are higher and more beautiful than any I have ever seen before."

Columbus was surprised at the size and

beauty of the trees. He was used to colder countries where, during the winter season, the trees leave off growing. He had now reached a land where it is always hot, and where the rains brought by the damp trade winds make the climate always wet. And where there is a constant supply of heat and rain the trees do not stop growing at any season, but grow



A FOREST IN CUBA.

all the year round, produce fruit and blossom at all seasons, and reach a great size.

It is not difficult to picture to ourselves the appearance of these islands as Columbus saw them, for there are many stretches of the ancient forest left and many of the trees and flowers are of the same kind to-day—coco-nut, calabash, prickly pear, arrowroot, the papaw with its straight stem and fruits like pumpkins hanging just beneath the crown of leaves, and

masses of yellow, blue, pink, scarlet, and orange flowers.

From Cuba Columbus went south again and discovered *Haiti*. Then he turned back. But he knew, from the outward journey, that if he tried to return by the way he came he would have the winds against him all the way. The belief of Columbus that the world was round had led him to cross the Atlantic. Another belief led him to find the proper way home. He felt sure that as there was one belt of wind blowing westwards all the time, there would probably be another belt blowing eastwards all the time, and, with this idea in his mind, he sailed a little way to the north and found what he expected, a belt of westerly winds. These are stormier than the steady trade winds, and Columbus had a more tempestuous voyage, but the west winds brought him back to Europe again in about the same time as it took the east winds to send him across the Atlantic.

Columbus had not found a new way to the riches of the Indies; he had found something more important, a new land of which Europeans had never heard. But he, himself, had no idea that this new land was part of a new continent. He thought he had really arrived at those very Indies that he set out to reach by a westerly route. And when the mistake was discovered the islands on the other side of the Atlantic

were called the *West Indies* to distinguish them from the *East Indies*.

Once Columbus had shown the way there were plenty of people who were brave enough to follow his example. They did not all sail in the same direction, but whether they went to the west, the north-west, or the south-west, they always reached land, so that in time men came to believe that all these different lands were only parts of one big continent—the continent we call America.

CHAPTER VI

THE AMAZON AND THE AN

RUBBER, or india-rubber as it is is important not only for reme marks but also in the manufact for bicycles and motor-cars and in with much electrical work. It is a tree, and as such large quantiti are used the tree must grow wh plenty of moisture. We have se trees in the West Indies are big an because of the heat and the w south, in the valley of the *Amazo* warmer and wetter and the forest and denser. The valley of the *A* huge flat plain covered with a forest called the *selvas*. This is the rubber tree.

In this forest the trees grow like thousands of pillars. Over the pillars is spread a green roof fo topmost branches and their leaves. an aeroplane, this would look like a sea, dotted here and there with beautiful flowers like so many color Underneath the thick green roof tl

light, and from tree to tree pass creepers, as thick as ropes, that seem to tie the whole forest up into a big, thick mass of wood that one cannot get through. In this gloomy place it is always hot, moist, stuffy, and dark. There are hundreds of different kinds of trees. This is quite different from the Canadian forest, where there are only eight different kinds of

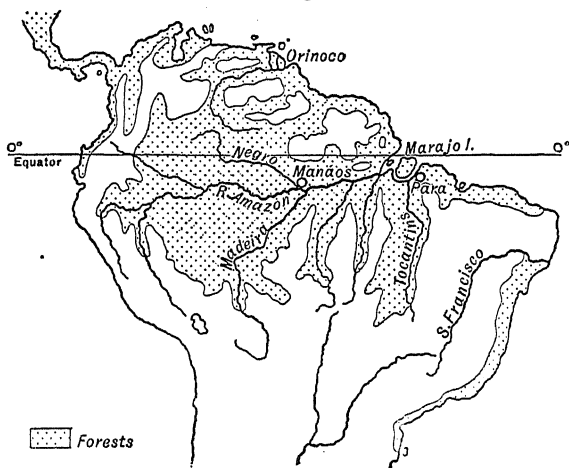


FIG. 10.—MAP TO SHOW THE EQUATORIAL RAIN FORESTS OF SOUTH AMERICA.

trees, and where it is possible to travel for miles and miles and see only one kind.

Many kinds of trees provide the juice from which rubber is made: the most important has leaves and bark something like those of the ash and grows to a great height before throwing off branches. The man who collects the sap goes to a tree and makes cuts in the bark.

The juice oozes out and is collected in cups of tin or clay. The next day the juice is heated and so hardened.

The life of the rubber collector is a very hard one. He lives alone, or with one companion, in a rough hut made with pieces of palm wood and roofed with leaves and fibres.



A RUBBER TREE BEING
TAPPED.

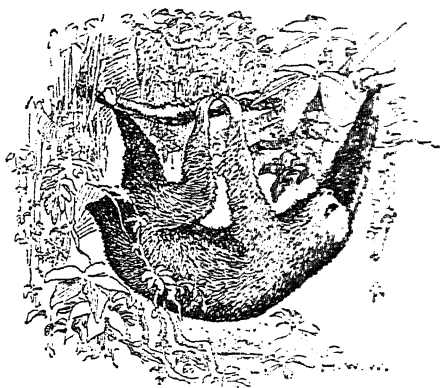
When he finds the trees he cuts paths from one to the other. He begins his work at four in the morning. When he gets up he drinks a cup of coffee, shoulders his rifle, and, taking his small axe and some little tin cups, he starts out on his morning round, visiting each tree in turn, making cuts in the bark, and fixing one of the cups underneath to catch the white milk. After all his trees have been visited, he returns to his hut, cooks and eats his mid-

day meal of dried meat and beans, and at once, if he is alone, starts out to collect the milk from each of the little cups. Returning home, he lights the furnace in the rubber hut, the atmosphere of which, after five minutes, is stifling, pours the milk into a large pan, and slowly heats it; when hot enough he smoke-dries it

on to his rubber ball, which is mounted on a long pole or stick, by pouring it over the ball, which is held in the smoke of the furnace, and must be kept revolving.

He needs a special kind of fuel for this work, and he must collect it beforehand. By the time he has dried the sap, it is dark; he eats his supper and goes to bed. He gets fever and rheumatism, and is often poisoned by bad food. He can have no fresh meat unless he kills it for himself, and that is not easy.

The animals that live in such a forest as we have been describing must be specially suited to live in such a



A SLOTH.

home. First of all on the damp, messy ground there are all kinds of "creepy crawly" things like snakes and leeches. They can live in the mud and wriggle in and out amongst the trees. There are ants everywhere, black, white, yellow, and red. Some of them are one and a half inches long, and have a bite like the touch of a hot iron. All kinds of stinging things are found, and there are hairy spiders whose bite is poisonous.

Next there are the animals that can live in the trees. There are the birds that fly about in the more open spaces and live in the tops of the trees. Nothing can live above the ground unless it can fly, or climb and hang on to trees. There is the *sloth*. It sleeps in the

daytime, hanging downwards from a branch which it clasps with claws that are fashioned like hooks. It wakes up in the evening and then moves quickly from tree to tree, catching hold of each branch with its twisted feet and using its long arms to tear off tender shoots, which it stuffs into its mouth. If it has to walk on the ground it finds its claws of little use, and is as awkward as a man would be who



A JAGUAR UP A TREE.

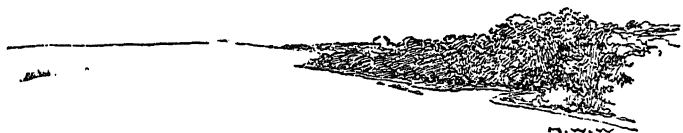
was forced to live in its place.

Then there is the *jaguar*, a kind of tiger. It cannot run well like the true, long-legged tiger, but it moves quietly and secretly from tree to tree, and drops on its prey from the overhanging branches. And there are monkeys that use their tails as well as their hands and

feet when they move about, and can hang on to a branch with the tail and so swing easily from one tree to the next.

The only way to get from one part of the country to another is by the rivers, and of these there are a great many. The trade winds are always bringing plenty of moisture, and rain falls every day. As it is always raining a great deal of water is always draining off and the rivers are always full.

The longest river is the Amazon; it is longer than the distance across the Atlantic.



VIEW ON THE AMAZON.

It has many tributaries flowing into it on both sides, and the basin, that is, the land drained by the river and its tributaries, is as big as the whole of Canada. The estuary is big enough to hold almost the whole of Scotland. When the tide rushes up the river it raises a wall of water from five to twelve feet in height, which moves forward at the rate of about ten miles an hour. Since it is so long the Amazon is the main road of the forest and ships can get up it for a distance of 3000 miles, and rubber can be loaded on them a long distance from the sea.

A map of South America shows that the

greater part of the basin of the Amazon is in the lowland, but that the beginnings of the main stream and of its tributaries are in the mountains. The part of the basin in the mountains seems very small, if compared with the part in the lowlands; but it is really very large, as may be seen by measuring its length by means of the scale on the map.

The western highland of South America is called the *Andes*. It runs north and south through the continent from the *Isthmus of Panama* to *Cape Horn*. Towards the southern end the range gets lower and lower and much closer to the sea, and in the far south it rises steeply from the shore. The passes are at a great height, some of them at 15,000 feet, and the journey across the mountains is everywhere difficult and dangerous. Often there is no proper road, not even a mule-track.

Up the side of the mountains we get the usual belts of different kinds of plants according to the height. If we begin the ascent somewhere near the equator, we first pass through forest so dense that we can see only a little way into it. In these forests grow bananas, india-rubber, cocoa, and palm trees. Farther up the air is cooler, and tobacco, cotton, and maize are grown. Higher still it is cool enough to grow wheat and most European fruits and vegetables. Then it becomes too cold for farming, though there is a good deal

of coarse grass, and then, higher still, are the ice and the everlasting snows. The highest parts of the Andes rise everywhere above the snow-line.

The passes are so high that animals like the horse and the mule cannot breathe. Their



FIG. 11.—MAP TO SHOW THE HIGH GROUND OF SOUTH AMERICA.

place is taken by the *llama* and the *alpaca*. The llama is a dwarf camel. Its body is covered with a soft grey wool that protects it from the cold, and can be used for making clothes. The bodies of the young are good

to eat, and the milk is good to drink. Llamas can live on almost anything, and thrive on the coarse grass that grows everywhere on the Andes, right up to the snow-line. Llamas can carry a load of 100 lbs., and are said to be so cunning that, if over-loaded, they will lie down and refuse to move till the proper weight is reached.

The alpaca is another animal of the same kind and is almost as useful. Without these two animals there could have been no trade and no travelling over the passes of the Andes.

The western highlands of South America are interesting to write and read about, but we must not give them too much importance. For, after all, by far the greater part of the continent is not highland but lowland. And through this lowland flow long rivers like the Amazon, the *Orinoco*, and the *Parana*, with numerous tributaries, also of great length. Owing to the lowness of the land there are few waterfalls or rapids, and boats can make their way very far inland. Of the forest-covered lowland through which the Amazon flows we have just learned; of the lowland through which the Parana flows we shall learn in the next chapter.

CHAPTER VII

THE ARGENTINE AND CATTLE

CATTLE feed on grass ; therefore the big cattle-rearing lands are the grass lands. Imagine, for a moment, that a piece of country where it is hot and where there is plenty of rain is left to itself. At first, both grass and trees will grow, but, after a time, owing to the heat and the moisture, the trees will be much taller than the grass, the branches will shut out the sunlight and the grass will wither. Hence we have to look for grass where it is fairly dry. But this is a condition required for growing wheat, and it follows that wheat lands and grass lands are usually close together, though grass will grow in places where there is not enough rain for wheat.

In the north of North America we have seen wheat-growing in the central plains and cattle-rearing in the drier plains farther west, at the foot of the Rockies. In the south of South America we have a similar region—the open plains of *Argentine* and *Uruguay*. These plains lie in the west wind belt, but as the west winds have to come over the Andes, they lose

most of their moisture on the way and the plains are rather dry.

The great plains of South America, those which correspond to the prairies of North America, are called *pampas*. In most places the grass grows to a height of three or four feet, and remains of a deep green colour all the year round; it crowds out most of the

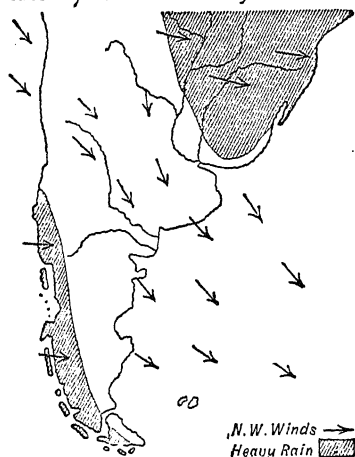


FIG. 12.—MAP TO SHOW WHERE THERE IS MOST RAIN IN THE SOUTH OF SOUTH AMERICA.

other plants, and flowers are few. On the moist clayey parts flourishes the stately pampas grass, which often attains a height of eight or nine feet. It is possible to ride for miles and miles with the feathery spikes of the grass reaching to the rider's head or even higher.

"It would," says the naturalist Hudson,

"be impossible for me to give anything like an adequate idea of the exquisite loveliness, at certain times and seasons, of this queen of grasses, the chief glory of the solitary pampas. In some places, where scarcely any other kind exists, it covers large areas with a sea of fleecy white plumes; in late summer and in autumn the tints are seen, varying from the

most delicate rose, tender as the blush on the white under-plumage of some gulls, to purple and violaceous. At no time does it look so perfect as in the evening, before and after sunset, when the softened light imparts a mistiness to the crowning plumes, and the traveller cannot help fancying that the tints, which then seem richest, are caught from the level rays of the sun, or reflected from the coloured ray of the after-glow."

The plains are not equally dry in all parts, and on the eastern side there is a moderate rainfall in the spring. Spring rain, fertile soil, and a dry summer make wheat a paying crop. But we have seen something of the

work of the wheat farmer when studying the prairies of North America; on the pampas of South America we can turn our attention to the cattle.

The ranches vary in size, but are all extremely large. The days of unenclosed land, when the cattle wandered where they would,

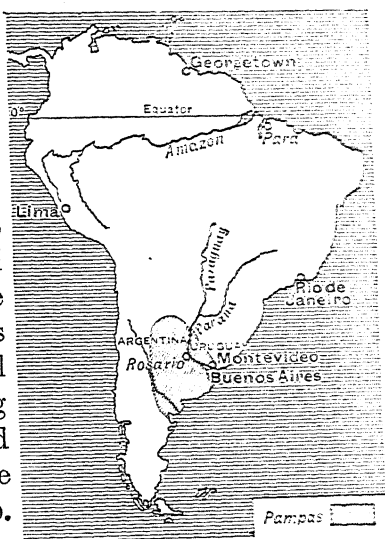


FIG. 13.—MAP TO SHOW THE PAMPAS.

are now over, and the ranches are surrounded by stockades. At the farms there are no barns or stables as there are at home with us. There is just the simple house of the owner of the ranch, one or two open sheds to shield the riding horses from the sun in summer, and a few miserable cottages where the *peons* or labourers live. These cottages have numerous holes in the roof, but nobody troubles, for it



GAUCHOS IN PAMPAS GRASS.

seldom rains. In front of the ranch is the *corral* or *enclosure*, made by driving strong posts into the ground; some of the enclosures are big enough to hold 5000 head of cattle at the same time. It is to these corrals that the cattle are driven when they are to be branded or sold.

The cowboys are called *gauchos*. They wear big wide-brimmed hats, wide trousers, tight

boots, and brightly coloured *ponchos*. The poncho is practically a blanket, and is very commonly worn in the form of a robe-like garment.

The work of collecting and bringing in the herds of half-wild cattle is a work that requires a life-long training and the highest skill in the management of the *lasso*, the *bolas*, and the horse.

The lasso is a very strong, thin, well-plaited rope, made of raw hide. One end is fastened to the saddle, the other terminates in a noose. The gaucho whirls it round and round his head, and can cause it to fall on any particular spot he chooses.

The *bolas* consists of three round stones covered with leather and joined, by thin plaited thongs about eight feet long, to a common centre. The gaucho holds the smallest of the three balls in his hand, whirls the other two round his head, takes aim and hits the mark. As soon as the balls strike an object they wind round it, cross each other, and become firmly hitched together.

The education of the gaucho begins at a very early age. When quite a little boy he may be seen pursuing the chickens, a lasso revolving round his head. As he gets older he tries his hand on the dogs. "He then," says Christison, "ascends to colts and calves, and at last the glorious day arrives when,

from horseback, he can arrest the most savage bull in its mad course, or lasso on foot the swiftest horse as it gallops from the corral by whatever leg he chooses. Meanwhile he has learned to kill, cut up, and cook sheep and cattle, to make horse gear from raw hide, and his education is complete."

The gaucho practically spends his life on horseback. He rests on two legs and travels on four. On the fence in front of the farm there is always a number of saddles ready for use, for no one ever walks if he can help it. A man springs on a horse to go a hundred yards, and even the beggars do their begging on horseback. The horse is not a mere luxury; it is a necessity, for the ranches are so large and the distances from place to place are so great, that travelling on foot would be quite impossible; and the animals, whether cattle or the beasts of the chase, are so fleet of foot that they could never be caught except by men mounted on the swiftest steeds.

For months together the gauchos eat nothing but beef, but they eat a very large proportion of fat. It is perhaps due to the meat diet that they can go so long without food. It is said that some gaucho soldiers once, voluntarily, pursued a party of Indians for three days without eating or drinking.

From time to time the cattle must be

collected in order to mark the calves and select the fat ones for sale and for other purposes. The gauchos gallop off in different directions and first collect the animals in small groups on the open plains. If they tried to drive them directly forward, the animals would bolt in all directions, so the riders circle round and round and cause the group also to move round and round and, at the same time, to go gently forwards in the desired direction. When the herd is within a hundred yards of the corral



CATTLE ON THE PAMPAS.

it begins to get suspicious, but its fears are quietened by the sight of a few old cart oxen lazily chewing the cud. When the herd is within fifty yards, a man on horseback urges the three old bullocks towards the mouth of the corral and then slips away. The three traitors trot off to the corral and the wild cattle follow at a canter. The animals press upon each other and, as the entrance is narrow, the crush soon becomes quite terrifying; some of the cattle break loose, and they are pursued

and either driven back or towed back by the lasso. Some, with their feet hopelessly entangled by the bolas, are just left till the gauchos have time to come to recapture them.

In the morning the cattle are let out and then caught again, and this goes on, over and over again, till the animals are quite tame and will allow themselves to be driven into the corral by a man and a few boys. The process of taming is to allow the animals to get fat, which they rarely do as long as they are in a state of continual terror.

At one time it was impossible to send the flesh of the cattle to Europe, as it would have gone bad on the way. The animals were valued only for their hides and for the tallow that was made from their fat. The cattle were driven to the coast and there killed and boiled down, but the sheep could not be driven such long distances, and they were slaughtered and boiled down on the farms of the interior. A big farm would deal with as many as 8000 to 10,000 sheep in a year. The fleshy parts, those that are best to eat, were thrown away, and it was no uncommon sight to see thousands of legs of mutton lying rotting on the plains.

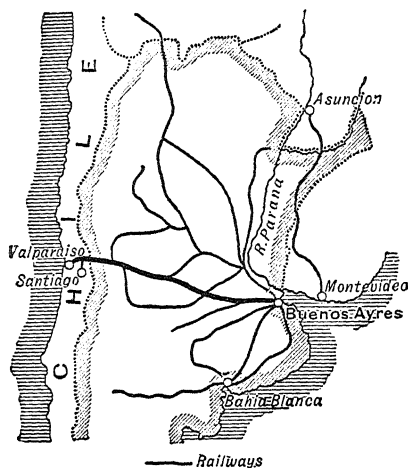
To-day the carcasses can be frozen and sent to Europe on ships fitted with refrigerating chambers. When they arrive in our markets

the flesh is quite fresh and, fit for food. In 1830, when the process of freezing meat to preserve it was introduced into South America, only 17,000 sheep were exported. Less than twenty years later the refrigerating chambers were stocked with no fewer than 120,000 cattle and 3,000,000 sheep in one year.

The flesh is also exported in other forms—"jerked" or dried beef, corned beef, tinned tongue and various extracts. The factories where this kind of work is carried on are called *saladeros*. The biggest are at *Fray Bentos*, where Liebig's extract and Oxo are made, and at *Paysandu*, where the celebrated tongues are tinned.

Near to Fray Bentos there are large corrals with long lanes bordered with posts, leading to the slaughtering yard. The cattle are driven to the yard and, as they enter, they are lassoed by a man standing on the stockade. One end of the lasso is fastened to a steam winch and the animal is dragged along to a spot where it is killed instantaneously by a blow from a special kind of knife. The body drops on to a small iron truck and is drawn to a shed. Then the carcass is skinned and cut up, and the parts sorted out and taken in different directions. The meat is hung on rails, the skins put into brine baths, and the blood saved for manure. The meat is stewed in tanks, and a thin liquid strained off and skimmed to remove

all the grease. This thin liquid passes through other processes until it will turn to a jelly when cooled. The jelly, which is Liebig's extract of meat, is then sent to Antwerp in large tins each holding about 110 lbs. It is examined by chemists to see if it is pure, packed up in the smaller bottles with which we are



ARGENTINE RAILWAYS.

all so familiar, and sent to almost every market in the world.

In lands like the Argentine and Uruguay, lands of wide plains and no roads, the rivers are of the greatest use, especially as the crops and animals produced for export are bulky to carry and land carriage is expensive. The biggest rivers of the lowlands run into a wide estuary called the Plate, and on its banks are

the two chief ports, *Buenos Ayres* and *Montevideo*. The words "Buenos Ayres" mean "good air." This port was founded by the Spaniards, who placed it as far inland as possible, in order that they might travel far into the interior in their ships. The estuary is shallow, but this did not matter to the Spaniards, for their ships were small. As ocean steamers are now very large, it has been found necessary to deepen the harbour. This has cost a great deal of money, but if it had not been spent the trade of the port would have gone. Owing to the flatness of the land it has been an easy matter to connect Buenos Ayres by rail with other parts of the country, and railways radiate from the port, in all directions, like the spokes of a wheel.

The plains of the Argentine and Uruguay are then very different from the plains of the Amazon, and there are good reasons why they should be different.

CHAPTER VIII

THE PATAGONIAN INDIANS

AT the equator it is warm and damp, as we have seen in the valley of the Amazon. Farther north and farther south it is cooler and drier, and there we find the wheat and cattle lands—*prairies* in North America and *pampas* in South America. Farther north still in North America it is cold and damp and there live the Eskimos ; farther south still in South America it is also cold and damp and there live various tribes of Indians.

The district south of the Rio Negro is known as *Patagonia* ; it varies very much in character from east to west. On the east coast there is a narrow strip of grassy land now inhabited by a few settlers, chiefly Europeans, who rear sheep and cattle. West of this is a higher region which is practically a desert of sand and shingle, but the thin soil bears a scanty crop of grass on which feed the guanaco and the rhea.

The *guanaco* is something like the llama, half sheep and half camel. It lives where the herbage is thin and thorny and it provides

the Indians of this area with most of what they need. The flesh gives them meat, the skin is made into a poncho, and the hoof, with part of the skin attached, is made into a boot. These

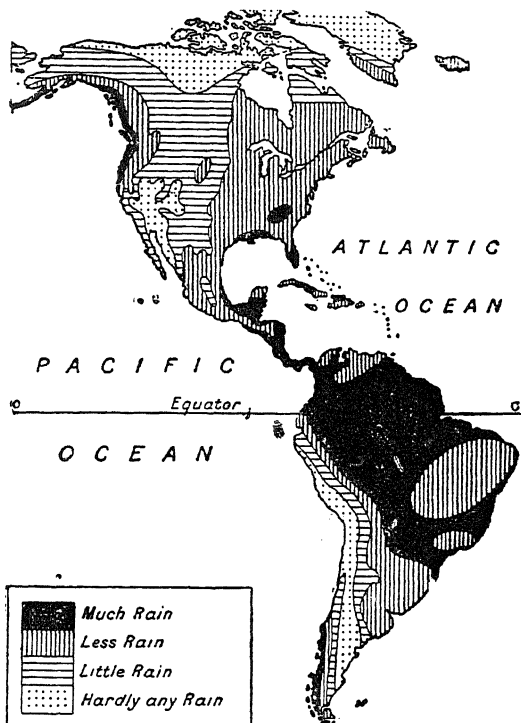


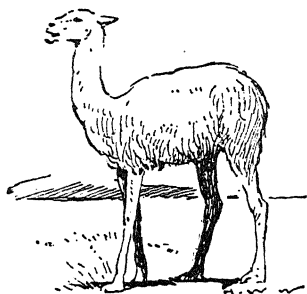
FIG. 14.—RAINFALL OF THE NEW WORLD.

boots leave very big footprints, so that when the Spaniards first visited the country and saw, on the sands of the beach, a number of huge footprints, they said that they must have been made

by the feet of giants and they called the country "Patagonia," which means "big feet."

The *rhea* is a kind of ostrich ; it lives nearer

to the mountains, where there is tall grass and lakes of water. Like most of the birds of the steppe and the desert, it can run swiftly, but it has no power of flight. In such districts there are no trees and therefore no safe places upon which birds can rest, out



GUANACO.

of the sight of man. Their flesh and eggs are eaten and their feathers are used for ornaments and worn in the hair.



RHEA.

As the Patagonians had no sheep and cattle and no land fit for farming, they were obliged to hunt animals for a living, and it was they who invented the bolas as a weapon, using the pebbles of the desert for ammunition and a thin strip of guanaco hide for a sling. At the time when

these people were discovered by the Spaniards, they used bows and arrows, and they had to get very near to their prey before they could shoot

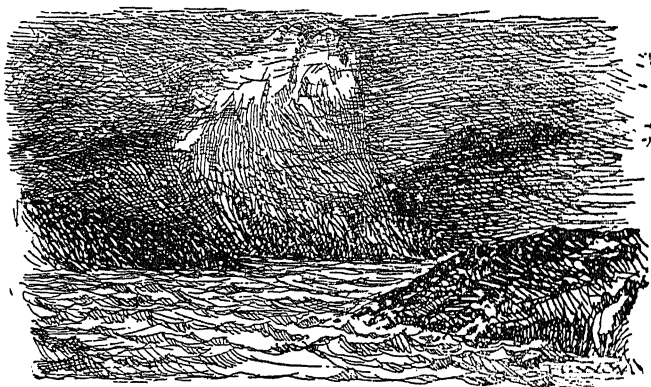
it. They did not invent the bolas until they had learned the use of the horse.

In September and October the Indians gather the eggs of the rhea. These are laid in holes scooped out of the ground, and as usually several females use the same nest, forty or fifty eggs may be found in a single spot. From November to February the young guanaco is hunted for the sake of the tender skin. Only the animals under two months old are taken and the best bedding and clothing are made from the skins of these very young animals. The killing and skinning are the work of the men; the women dry and cure the skins and make the garments.

The Patagonian Indian is a wanderer, ever in search of prey, and therefore, like other wandering tribes, he needs a movable home—a kind of wigwam. His tent is called a *toldo* and it is made of a number of guanaco skins sewn together and fitted over a framework of poles. As the wind is almost always from the west the tent is pitched with the open end to the east. In front of the wide open doorway several stakes are driven into the ground, and to these skins are fastened to form a kind of screen which keeps out any winds that may come, from time to time, from the east.

Farther south, in *Tierra del Fuego*, there is another tribe of Indians who, like the other Indians of Patagonia, depend for their food and clothing upon the guanaco. When the white

men settled on the plains of the islands and brought sheep with them, the natives thought that the sheep were "white guanaco," and because these new guanaco were easier to catch and nicer to eat than those which had usually been hunted, the Indians began to kill and eat them. The white man grew angry and a war commenced which ended in the death of most of the native people; the few that escaped fled



WOLLASTON ISLAND, TIERRA DEL FUEGO.

into the mountainous forested country at the southern end of the island, and there some of their descendants are still to be found.

In the islands that lie farthest south of all there is yet another tribe of Indians who may be compared, in many ways, to the Eskimo of the farthest north. The climate is cold because the islands lie far south, and wet because they lie right in the track of the westerly winds.

Gale succeeds gale, with rain, hail, and sleet day after day. At least three hundred days in each year are cloudy. It is not easy to live for ever under a dull sky, in a land where the tops of the mountains are crowned with snow and their sides are drenched with rain, and where the winds wail and the surf beats violently on the shore from month's end to month's end.

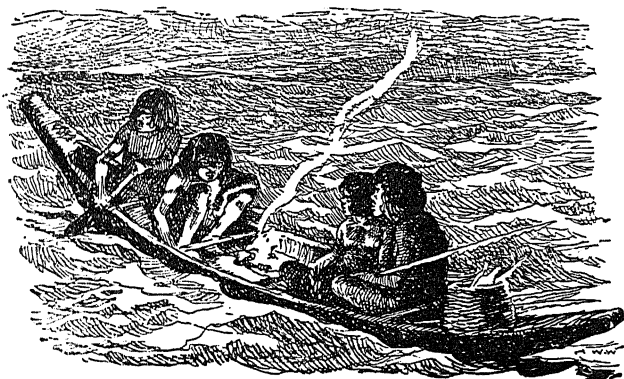
The islanders have no leisure, for it takes them all their time to obtain food; this food consists chiefly of shell-fish. As soon as they have consumed all the shell-fish on one part of the shore they must move to another in search of the next meal. From time to time they return to the old spots and then add to the piles of old shells, so that in time these piles may amount to many tons in weight. Very often they suffer from famine. Darwin, in that interesting book of travel, *The Voyage of the "Beagle,"* tells a story of one hundred and fifty natives who lived on the west coast who were very thin and in great distress. There had been a succession of gales that had prevented the women from getting shell-fish on the rocks and they could not go out in their canoes to catch seals. A small party of them set out on a four days' journey for food, and when they returned, their harvest was a great square piece of rotten whale blubber with a hole in the middle through which they put their heads as through a hole in a blanket.

In summer they get a few berries; and in winter they may perhaps add a few roots to their scanty diet. They have baskets and water vessels made from bark, but they have no kitchen utensils or pottery. As food in any one place is very scarce, there are never many people living together; their groups hardly ever exceed twenty or thirty persons in number.

Because they move often, they build no houses of wood or stone. Their tent or wigwam is something like a haystack in shape. It consists of a few broken branches stuck in the ground and very badly thatched on one side with tufts of grass and rushes. It takes only about an hour to build this wretched habitation, but it is only used for a few days, and sometimes the people, almost or completely naked, actually have to sleep in the rain and the snow, out in the cold and the wet, and on the sodden ground with no shelter at all.

Clothing must be made of skins. On the east coast guanaco cloaks are worn; on the west, sealskin is obtainable. But in the centre the only clothing is a small otter skin or some small scrap about as large as a pocket-handkerchief. It is laced across the breast and is shifted from side to side according to the wind. For ornaments—and most people, however savage, like to “dress up”—the native make necklaces of bone and shells and they stick a few feathers in the hair.

The greater part of the time is spent in small narrow canoes made of birch-bark or wood; there is plenty of these materials in the forests. Travel by land is difficult and the canoe is the common means of communication. In these canoes the natives hunt the sea-lion and catch large fish, using harpoons and spears of wood fitted with sharp pointed heads of bone or stone.



TIERRA DEL FUEGO: NATIVE BOAT WITH FIRE BURNING ON STONE HEARTH.

In the centre of each boat there is a clay fire-place where the fire is always kept burning if possible, for it is very difficult to light a new fire in a land where the wood is all damp and there are no matches. It was the sight of these fires burning in the boats that caused Magellan, the discoverer of this part of the world, to call it *Tierra del Fuego*, that is, "Land of Fire." Though shell-fish are usually eaten raw and no

cooking is needed, the fires are useful for stewing or frying the other kinds of fish.

One wonders what it is that tempts these people to stay where they do. They live about the most miserable life of any race on earth. Yet they do not decrease in numbers, and therefore, says Darwin, "we must suppose that they enjoy a sufficient share of happiness, of whatever kind it may be, to render life worth having."

CHAPTER IX

THE WAY TO THE INDIES

FOUR hundred years ago the use of root crops for feeding cattle during the winter months was unknown. The farmers, therefore, were in the habit of killing most of their cattle and pigs in the autumn and preserving the meat by salting and drying it. People got very tired of dry and tough salt meat, day after day, for breakfast, dinner, and supper, and in order to make it a little pleasanter to the taste they added, if they could get them, different kinds of spices, particularly pepper. The spices came from the Indies and the trade in them was a very important one.

This trade was chiefly in the hands of the Arabs. They carried their precious cargoes from India through the Red Sea or the Persian Gulf, unloaded the boats, and took the goods across land to the Mediterranean, where the Venetians and Genoese put them on boats again and finally landed them at some European port, chiefly at Venice. When Columbus went off across the Atlantic he discovered America, as we have seen, by accident. He was not looking for a new continent, but for a new way to the Indies so

that the "riches of the Indies" might be brought to Europe without having to depend on the Arabs. One way had already partly been found, the one that goes east past Africa. But that had been discovered by the Portuguese, who looked upon it as their own. Had Columbus, on behalf of Spain, tried to go by the Portuguese route there would have been trouble.

The Portuguese were not the first people to sail south along the coast of Africa, but they were the first to reach the southern end of it. There was a very wise and brave Portuguese prince, known as Prince Henry the Navigator, and it was the great desire of his life to find a road round Africa to the Indies. So he collected together map-drawers, ship-builders, sea-captains and sailors, and, year by year, he sent ships to explore the coast. Each one, on its return, had some story to tell of new islands, new lands, and new peoples, but none of them got far enough south to find the road they were looking for, and Prince Henry died before the road was discovered.

A year or two before Columbus crossed the Atlantic, Bartholomew Diaz sailed away to the south to see if he could write another page in the book of African discovery. He kept the land in sight, on his left hand, and came to the barren coast where the Sahara desert reaches the sea. In this part of the world the north-east trades sweep on over wide stretches of

land, losing moisture as they go till at last they reach the sea with no moisture left. Nothing is to be seen but brown stretches of sand and rock bathed in the fierce rays of a sun that dries and bakes the ground. Next he came to Cape Verde, or the "Green Cape," so called by an earlier explorer because here green trees greeted his eyes after the wearisome brown of the desert. This fertile cape is at the beginning of land like an English park where grass and trees are both to be found.

Some time afterwards Diaz was near the equator. The heat was intense and there was rain day after day; here were found forests like those in the valley of the Amazon. Diaz kept on, always with the land on his left hand, and after a while it began to get cooler again, for he was going away from the equator, and it began to get stormier, for he was reaching that belt of westerly winds that brings so much rain and so many gales to the southern part of South America. He kept out to sea because he did not wish to be driven on the rocky shore. But he sailed on southwards, and because he had had land always to the east of him he thought that it must still be to the east of him, and by-and-by he sailed eastwards to look for it. Going east was easy enough as there were strong winds behind him, but he sailed on and on and found no land to the east, so he turned once more to the north. After a time he reached the land, still

on his left hand. But he was now sailing north, whereas he had before been sailing south. Therefore he must have turned round a corner, round some big cape. He went back to look for it, found it, and called it the "Cape of Storms," but when the king heard all the news he changed the name to the "*Cape of Good Hope*," because there was now every good hope that a sea-way to the Indies would be found.

Six years later Columbus discovered what he called the "Indies," but they were not the Indies where the spices came from. Still, nobody knew that America stretched from the north to the south, and the Portuguese were very much afraid that if they were not quick, the Spaniards, with Columbus as a leader, would get to the spice lands by a westerly route before they could reach them by the easterly route that they had already partly explored. And, of course, the trade would belong to those who arrived first.

So, in 1497, the King of Portugal gave Vasco da Gama three ships and a store-ship and sent him off to complete, if possible, the work of Bartholomew Diaz. In an earlier chapter we have pointed out how the winds helped or hindered Columbus during his journey. It is interesting to see how they also helped or hindered Vasco da Gama. He left Lisbon at the beginning of July and, with the help of the north-east trades, he reached the Cape Verde Islands by the end of the month.

Shortly after that he met the south-east trades and they were against him, so that he was three months before he reached the coast of Africa, near to the Cape of Good Hope. Here he turned east, sailed first along the south coast and then turned northwards and eastwards along the

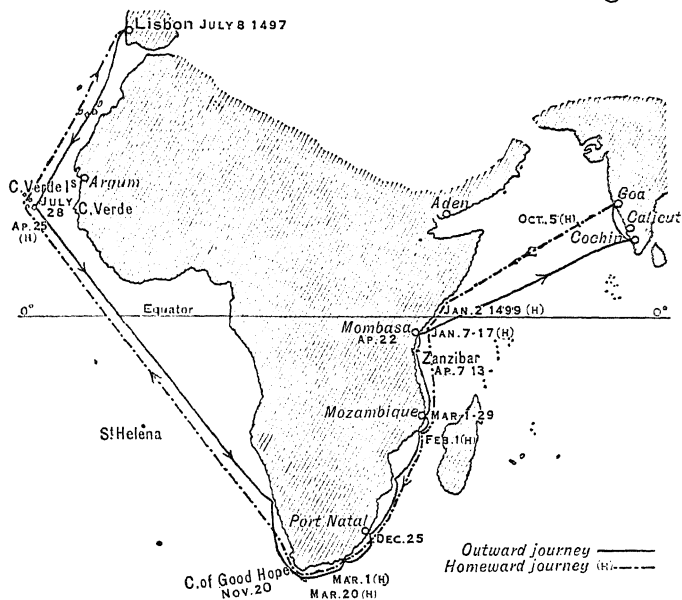


FIG. 15.—MAP TO SHOW VASCO DA GAMA'S VOYAGE TO INDIA AND BACK AGAIN.

east coast of Africa, past a pleasant land of woods and meadows. On Christmas Day (1497), Christ's *natal* day or *birthday*, he landed at a spot to which he gave the name of *Port Natal*. Going northwards he began to notice fine park-lands again with fine big trees, and on March 1,

1498, he reached *Mozambique*, the most southerly of the Arab trading towns on that coast.

Here the Portuguese landed. They were, at first, treated in a friendly manner, but when the chief man of the town found that they were Portuguese he refused to give them provisions or to find them a pilot to show them the way to India. Moreover, he attacked a party of sailors that had landed to get water. Da Gama left, but kept still to the north, calling first at one

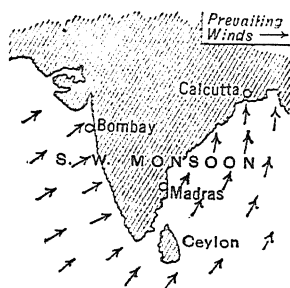


FIG. 16.—MAP TO SHOW HOW THE WINDS BLOW IN SUMMER.

spot and then at another and always meeting with hostility. He and his crew were hated because they were Christians and perhaps even more because the Arabs could see that if the Portuguese found the way to get to the riches of the Indies, then the Arab control of this rich

trade would be for ever over. Hatred and hostility had no power to stop da Gama, and he went as far north as *Zanzibar* and beyond to *Mombasa*. This northerly journey was leading towards the equator again and the weather once more became unpleasantly hot. When they were near the equator, they managed to get an Indian pilot, and then they turned east and sailed to India.

We have seen that in America, and on the

west coast of Africa, there are certain belts of steady winds, and we might have expected that on the east coast of Africa we should have found the same arrangements. South of the equator the arrangement of the winds is pretty much the same in the Atlantic, Pacific, and Indian Oceans, but in the Indian Ocean, north of the equator, there is a great difference. There, from May to October, the south-east trade crosses the equator, turns round and blows from the south-west. It was this south-west *monsoon* that took da Gama across the Indian Ocean in less than a month.

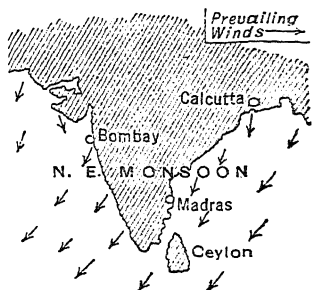
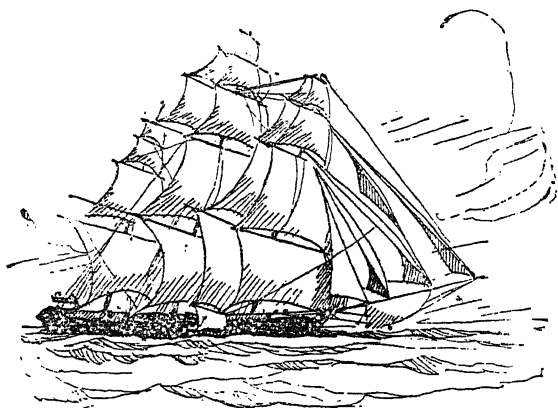


FIG. 17.—MAP TO SHOW HOW THE WINDS BLOW IN WINTER.

When the Portuguese arrived in India they tried to make friends with the natives and to get some cinnamon, cloves, and other kinds of spices to take back with them to Portugal in order to prove to the king that they really had been to India. Later on there was quarrelling with the natives and da Gama nearly lost his life, but the ships got away safely and steered for the coast of Africa. The south-west monsoon was now against them and it took them three months to reach Africa again.

At last they arrived at the Cape of Good Hope. Once they were round the corner the south-east

Ships were built which would sail faster. The vessels of the older sailors were short and "tubby," and the wind could not push them quickly through the water. Now a special kind of long narrow vessel called a *clipper* was built to go to India quickly to bring home tea. The clippers made the journey once a year and sailed with considerable speed. They set off, as



▲ TEA CLIPPER.

Columbus did, with the north-east trades and crossed the Atlantic towards South America. There they picked up the south-east winds and, with these "on their beam," they sailed almost along the east coast of South America till they reached the southerly belt of westerly winds. These carried them, as they had carried Diaz, beyond Africa. Then the clippers caught the south-west monsoon as did Vasco da Gama, and

so got to India. This outward journey was made in the summer, when winds are blowing towards India from the sea.

The return journey was made in the winter months, when the wind blows in the opposite direction. This strong winter wind is called the north-east monsoon.

A monsoon is a wind that blows for six months in one direction and then for the next six months in the opposite direction. Monsoon winds are found in other parts of the world, but nowhere are they of such strength and importance as in the Indian Ocean.

Coming home, the clippers sailed first with the winter monsoon behind them till they got to the south-east trades.

This wind was now "on the beam." but, beyond the Cape of Good Hope, it was behind, and so gave a speedy voyage across the Atlantic in a northerly and westerly direction

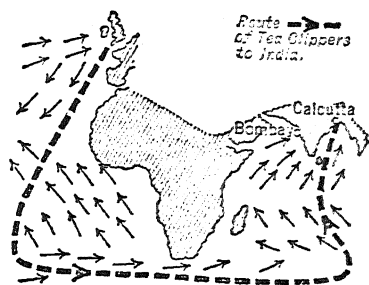


FIG. 18.—MAP TO SHOW HOW THE TEA CLIPPERS WENT TO INDIA.

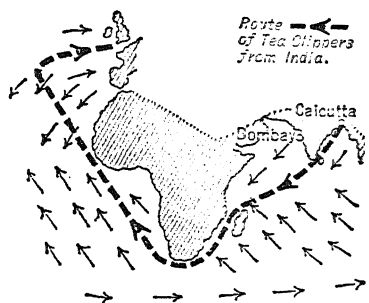


FIG. 19.—MAP TO SHOW HOW THE TEA CLIPPERS CAME FROM INDIA.

After a time they reached the belt of north-east trades and had them on their beam, but finally they reached the belt of westerly winds and these blew them home. On the map the way looks a very long one, but it was really much quicker than the shorter route followed by the Portuguese.

Every year there were "tea races" home, each ship trying to get back first. On one occasion five such vessels left China on the same day, and though they lost sight of one another on the voyage, they all arrived in the Thames within a few hours of each other. Some of the fastest clippers, taking advantage of the winds, could do 330 miles a day, and at that time fast steamers could not go more quickly.

CHAPTER XI

THE WAY FROM INDIA TO-DAY

WE have seen that the spices of India came, long years ago, partly by land and partly by water, and that the tea, in later years, was brought all the way by sea round the southern end of Africa. Tea and spices still come to us from the Far East, but they do not come by either of the routes that we have already described. And, to-day, the ships bring us not only spices and tea, but also rice, wheat, timber, and many other useful and valuable things.

The Arab trade was partly over the land, and the great difficulty was to carry the goods. It would have cost a great deal of money and trouble to have carried, say, timber overland on the backs of animals, and therefore bulky stuff like timber was not carried at all. Spices and precious stones were smaller, lighter, worth more, and more easily carried, and the cost of carriage was not so very great when compared with the value of the things carried. Hence the early trade was in goods that were light but worth a great deal of money. It was for this

reason that people thought "the Indies" were rich.

When a sea route between India and Europe was discovered it was possible to bring goods all the way by ship, and that made a great deal of difference in the things that could be carried. In the first place it is much easier to move goods on the water than on the land; one horse, for instance, can pull more coal in a barge on a canal than many horses can pull in carts on the land. Then, too, the surface of the water does not wear out like the surface of the land and there is no road-repairing to pay for at sea. And so it happens that, for both these reasons, carriage by water is much cheaper than carriage by land. When the cost of carriage became so much smaller it was possible to bring the bulky things like wheat and timber, and sell them at a profit, and yet at prices which ordinary people could afford to pay.

How do the bulky things come to us? First of all they are mostly brought to us by steamships, and steamships are not affected very much by the wind belts. They can take the shortest routes and are not greatly hindered by the winds. And, secondly, the shortest routes from India all pass through the *Red Sea* and the *Suez Canal*. There was no *Suez Canal* in the days when Vasco da Gama set sail from Portugal.

As water carriage is cheaper than land carriage it pays best to carry goods, as far as possible,

all the way they have to go by water. So tea, wheat, rice, timber or whatever comes to us from India is loaded up at the big Indian ports—*Calcutta, Madras, Colombo, or Karachi*, whichever is the most convenient—and then sent by the route we shall presently describe straight to the ports of Europe.

Travelling on the sea is slow, and if a man has to come from India to London he does not usually wish to spend a long while sailing, say, from

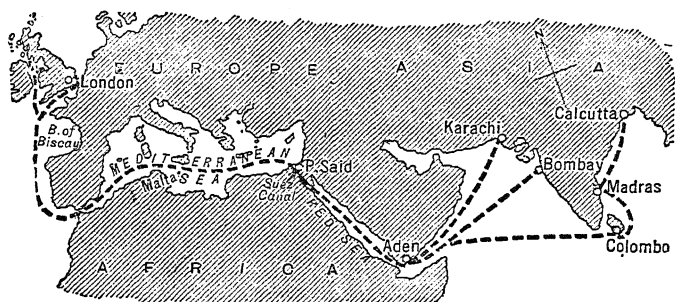
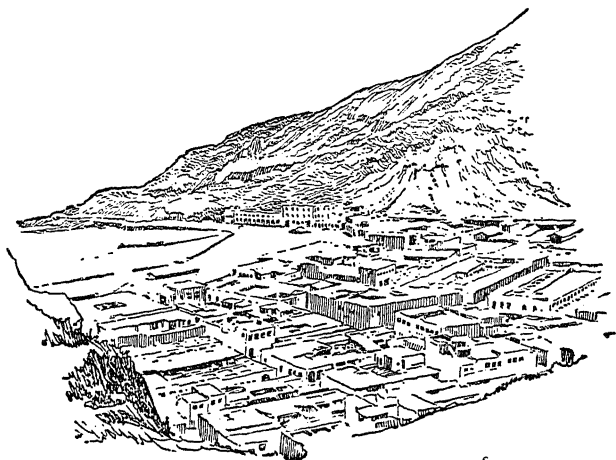


FIG. 20.—MAP TO SHOW HOW STEAMERS BRING GOODS FROM INDIA NOW.

Calcutta right to the south of India to get round the corner of the peninsula into the sea road to Europe. He goes straight across India to *Bombay* by railway. This makes the cost of travelling greater but the time taken is shorter, and time is money to many a business man. Letters also have to go as quickly as possible, and so it is usually from *Bombay* that Indian passengers travel and letters are shipped.

But, whether the steamship brings goods or

passengers, it will, sooner or later, pass into the *Gulf of Aden*, near whose western end is the little British settlement of *Aden*, in one of the most barren districts on earth. There are no trees or grass and the heat is intense. Rain only falls once in about three years, and nearly all the drinking water is obtained by distilling sea-water. In the market the women will, for a few cents,



ADEN.
Notice the flat roofs.

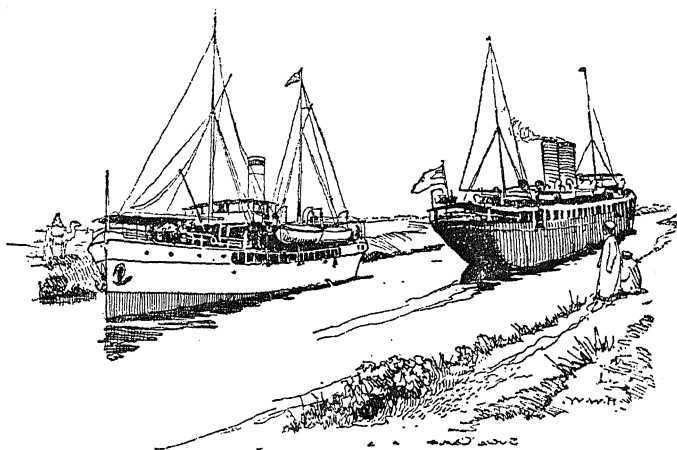
provide the thirsty with a drink of water from skins which they carry on their backs. Outside the town there are huge water tanks hewn out of the solid rock, one of which can hold 4,500,000 gallons, but there is very seldom any water in them. Aden is a *coaling station*, that is, a place where the steamers go to get fresh supplies of coal. There are no coal mines in or near to

Aden and the coal has to be taken there from Britain in ships that carry little or nothing else. All round the world there is a chain of these coaling stations, and most of them belong to the British.

After leaving Aden the ship passes through the *Strait of Bab-el-Mandeb*, the "Gate of Tears," so called because of the many shipwrecks that have occurred there, and enters the Red Sea. The journey through the Red Sea is a most uncomfortable one. The land is out of sight most of the way, and overhead is the fierce sun pouring out blinding burning rays that make the decks too hot for one to walk about with bare feet and the brass work of the vessel too hot to be touched by the hand. And if, in addition to the heat, there be a sandstorm blowing across from the desert, then the air is filled with a mist of fine hot particles of sand that blind and choke you at one and the same time.

At the north-western end of the sea is the *Gulf of Suez*. Here the land comes into view again, but the view is not pleasant, for whether we look to the right, to the peninsula of *Sinai*, or to the left, to the coast of *Egypt*, we see nothing but rusty-red rocks and sand. At the northern end of the Gulf of Suez is the little town of *Suez*. The journey from Aden to Suez is over 1500 miles—just a little less than the distance from Ireland to Newfoundland.

At Suez we enter the Suez Canal, a big ditch dug to connect the Mediterranean and the Red Seas. The canal is only about 100 miles long, and of this about 24 miles is merely a deepened channel made through a number of shallow lakes. It varies in width from 240 to 360 feet and, in places, is not wide enough to allow two vessels to pass each other, so that very often one vessel



SUEZ CANAL, AT A PASSING PLACE.

has to draw up at a wider spot in order that any vessel that is in a narrower part can go by. The waiting is very tiresome as there is little to see but sand, and as soon as the ship stops the breeze made by its motion stops also. On either side there is, however, a slight border of trees and other vegetation where the water has brought life to the thirsty land. Elsewhere

everything is red-brown at midday but grey, pink, or gold in the evening when the sun gets low in the west. If there is no delay the passage through the canal from Suez to Port Said takes about seventeen hours. The ships are obliged to go slowly or the wash would destroy the banks. At night the way is illuminated by big electric lights, so that traffic goes on by night and day.

Port Said is another coaling station, and more than a million tons of coal are taken there every year. Coaling never stops. There are always crowds of men, women, and even little children filling baskets with coal and passing them on to the barges to be taken to the steamer. No matter what time the vessel arrives at Port Said the passengers go ashore, for the ship is soon black with fine coal dust, and, as every door and porthole is closed to prevent the dust getting into the cabins, the vessel is most unpleasantly hot and dirty.

The next stage of the journey is through the *Mediterranean Sea*, a journey of about 2000 miles. The vessel makes for *Malta*, where, at the capital *Valetta*, there is a strongly fortified harbour for the use of the British navy in these waters. Malta lies south of *Sicily*, and the island of Sicily together with the peninsula of *Italy* divides the Mediterranean into two basins. Hence, when we leave Malta we have to go either between Sicily and Italy or between Sicily and the

northern coast of Africa. At the western end of the Mediterranean Sea is the *Strait of Gibraltar*, another British fortified naval station. The strait is only a few miles wide and it used to be said that the fort "commanded" the strait, but the guns never really prevented the passage of hostile ships and they were quite unable, during the Great War, to prevent submarines passing in or out of the Mediterranean, deep down under the surface.

Once we have passed through the Strait of Gibraltar, a more or less northerly journey round *Spain* and through the *Bay of Biscay* brings us to Cornwall, where the sea roads divide. Turn to the right for Falmouth, Plymouth, Southampton, and London and to the left for Bristol, Liverpool, and Glasgow.

We see that there have been three ways to India: there will be two more—one by railway and one by the air.

CHAPTER XII

THE PYGMIES OF THE FOREST

PEOPLE were so anxious to get to the Indies that, for a long time, they did not trouble to find out anything about the land they had to sail round and past, and yet in Africa there were and are to be found a number of very interesting people. Some of them have been known for a long time, while of others we have learned only in recent years, and there are most likely others of whom we yet know nothing at all. In this chapter we have to learn about the pygmies who live in the forest.

This forest is just like the big forest in South America which was described in Chapter VI. In this part of the world, as in South America, there is great heat and great moisture, and here too we find majestic trees rising 200 feet up into the air and so interlacing their leaves and branches that the rays of the sun are shut out, while the whole is linked together with creepers from two inches to a foot in diameter. The ground is strewn with dead leaves, branches, and rotting trunks.

The continual rain makes the ground sloppy,

and the only creatures that can live here are monkeys, birds, and “crawlies” of all descriptions that make their homes in the mud or on the branches—deadly snakes hang from the branches of the trees, “huge blackadders, pythons, bright green snakes with wicked red eyes, and whipcord snakes that look like green twigs.”

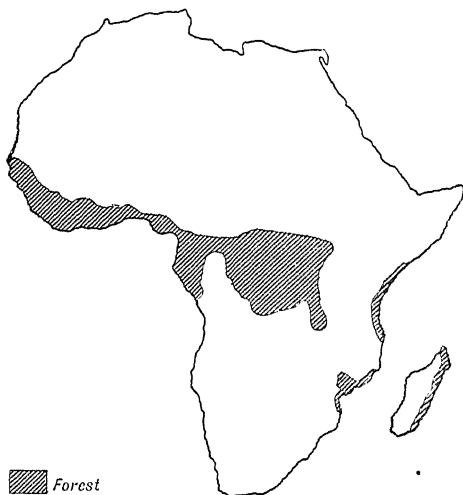


FIG. 21.—MAP OF AFRICA TO SHOW WHERE THE FOREST GROWS.

There are crocodiles, hippopotamuses, and water-snakes in the rivers, and there are birds of every description and hue, amongst which the parrots make the brightest splashes of colour.

Insects drop from above, crawl on the earth and fly in the open spaces. Every stick has insects on it; every tree has beetles and ants. Cockroaches, centipedes, and crickets abound.

But there are also big animals, such as the elephant, that are not found in the forests of America. They are so strong that they can smash their way through the trees.

The trees are of great value, some of them for medicine, some for timber for houses and boats, others for food, indiarubber and other things. And yet there are but few people in the forest, for though the land is full of riches it is hard to reach them. The paths are few and narrow and when left for a short while are rapidly overgrown and lost. Even the wild animals come and go by paths which they keep open by travelling along them time after time.



AFRICAN ELEPHANT.

Both the forests, American and African, are just where the equator is, halfway between the North and South Poles, and both forests have big rivers that drain off the tremendous amount of rain that falls. The inhabitants of the

African forests are the *pygmies*—dwarfs, or little men.

Because the heat is so great they wear but little clothing. The men have a strip of cloth and the women a bunch of leaves. They wear no ornaments, not even flowers and feathers, but they are particularly fond of “dressing up” in any fragments of European clothing if only they can obtain them.

Food, of a kind, is always at hand. Nothing is cultivated, but there are animals and fish. Roots are grubbed up, trees are climbed for fruits and berries, mushrooms are hunted for, and the honey of the wild bees is a great delight. In hunting animals the chief weapons are bows and arrows, made from the wood that is so plentiful. The *pygmies* are very clever with the bow and arrow and it is said that they can shoot four arrows, one after the other, so quickly that the last arrow has left the bow before the first hits the mark. If the archer misses that at which he aims he loses his temper and smashes both bow and arrows. With their tiny arrows they kill the biggest animals, even elephants. They first shoot the animal in the eye to blind it and then follow it with spear and arrow till it dies. They hunt only for the flesh, and if they kill an elephant, they usually throw away the tusks that we think so valuable. Besides arrows they have short light spears, but no shields. They catch fish without fish hooks,

merely using a bit of meat and a piece of string. They dig large pits in the forest and cover them with leaves, and into these pits large animals fall and are killed. They have little idea of cooking, and both flesh and vegetable foods are usually eaten raw, though they occasionally roast or smoke their meat over a wood fire in the open.

They are particularly fond of bananas and occasionally make a kind of small village near the home of some tribe that lives on the edge of the forest and cultivates the ground. There they know there will be plenty of bananas. When they want any of the fruit they cut up one of the animals they have killed and tie the pieces of flesh to the tree. This they call paying for the bananas, and they then take as many as they want. At times they shoot an arrow into an unripe banana tree to say that they want the bananas on that particular tree as soon as ever they are ripe. The owners of the tree are so afraid of the little men that they leave the tree undisturbed till the fruit is ripe, when the pygmies come to remove both it and the arrow.

During eight months of the year the forest is a swamp, for the rain falls every day. It is then very hard to get food at all, and the pygmies eat anything they can find, rats, mice, and frogs.

They do no work except hunting and making arrows, nets, and traps. If they want fruit, roots, tobacco, knives, or weapons they buy them

from other tribes with the meat, skins, ivory, or feathers that they have obtained in the forest. As they grow nothing to eat and as they are always killing animals or frightening them away, they are always on the move to somewhere else. Seldom do they stay in one spot for more than

three or four months. So they do not build strong houses. Instead they make a kind of shelter like a large beehive. Thin branches are first stuck in the ground and then bent over at the top and fastened together. This framework is covered with creepers and plantains and plastered with mud. There is plenty of both leaves and mud in the great damp forest where they live.



PYGMY HUT IN THE FOREST.

In each hut there are about eight or nine people who obey one whom they call their chief. It is his business to settle quarrels and to say, when the next move is made, where the new camp shall be pitched. There is nothing in the way of furniture in the huts. Men who move often and carry all they possess do not want to be bothered with much property, and

all they own is a few pots of clay, a few gourds in which to hold water, and the weapons with which they hunt. They carry most of their small possessions in a string bag made of fibres.

The pygmies are very tiny people, only about four feet high, but they are strong and brave. In fact they have to be strong and brave to live at all. They spend their time wandering about on land and so have never learned to swim, although there are plenty of streams and rivers. They get so much water from the rain that they want no more of it, if they can help it, and they neither use it for washing nor drinking. Because they are always in danger they have keen eyes and quick ears and are wonderful trackers of wild animals.

“They give their opinion as to age of tracks, fresh or otherwise, in a low whisper, and follow on with almost catlike stealth, careful to make no sudden movement, peering in front but missing nothing on the ground. They are alert for the least sound ahead. . . . When two are working together the pace is quicker than with one. If the leader is at fault the smallest gesture tells the man behind in which direction to look. The front man from the corner of his eye tells instantly if the second man finds the track and he follows in that direction, and so on, first one leading, and then the other. If both are at fault one man trots ahead along the most likely spaces in the undergrowth, while the second man makes

a sort of cast round where the tracks ceased, working like a ferret, with nose to the ground, turning over a leaf here or feeling with the flat hand there for any depression made by hoofs, all the while on the alert and watching for any sign from the man in front if he can see him. If nothing is found, on he goes, pretty sure that the other one has picked up the tracks. If out of sight of each other they communicate by low whistles, short low notes, imitating those of a bird common in the forest.

“When close to one another they beckon with the fingers over the shoulder, or if it is more urgent will make a sharp tap or two on their chest or a little slap on the thigh to attract attention. If one of them has to look back it is pretty to see how carefully he first takes stock of everything in front before he slowly turns his head to see what is happening, feeling his footsteps so as not to break sticks or catch his feet in creepers, and doing his utmost not to knock against anything which would bring down a shower of drops on the dead leaves below with noise enough to be heard by every animal within a hundred yards. If a stick is cracked or a noise made the little fellows instantly stop, standing on one leg if the other foot is not down, knowing that any animal within hearing is listening intently in the same manner for some explanation of the noise.”

Life is so very hard for the pygmies that they

do not live long, and a man of forty years of age is very old indeed. They have many habits which we do not like and they live in ways which do not seem very pleasant to us, but they do their best with the conditions in which they live, and though they are very uncivilised we cannot blame them. In their places we should do no better, perhaps not so well.

CHAPTER XIII

THE NEGROES OF THE SUDAN AND THE ZULUS OF SOUTH AFRICA. THE GRASS LANDS

THE pygmies live in the great forest. North and south of this forest there are lands of quite another kind where people live far differently from the pygmies. Forests only grow where there is rain all the year round. Where there is not rain all the year round there are either no trees or else trees that do not grow well in the dry season.

North of the big African forest there is a region called the *Sudan* ; it stretches from the Atlantic on the west to the Red Sea on the east. Here it is always hot, but it is not always wet. The year is divided not into winter and summer seasons, but into wet and dry seasons, and, during the dry season, the trees cease growing and the leaves drop off. In colder countries, such as England, it is during the cold season that growth ceases and leaves fall. Instead of forest the Sudan has grass lands with trees scattered here and there. This kind of grass land is called *savana* and is something

like a huge park, but the grass is as high as a man and grows in tufts.

The Sudan is the land of the civilised negroes. People often make the mistake of thinking of all black people as either barbarians or savages. In the forest to the south there are negroes who are not civilised, but even these men are not

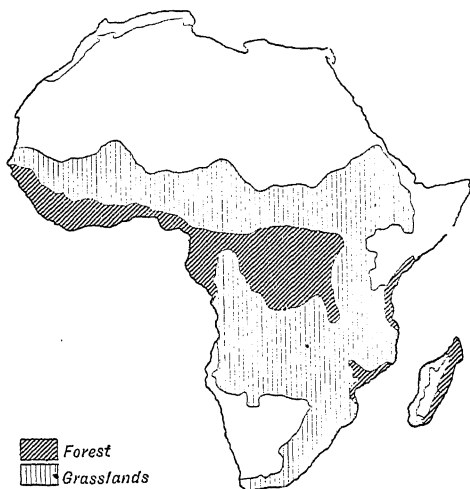


FIG. 22.—MAP OF AFRICA TO SHOW WHERE THE FORESTS AND GRASS LANDS ARE.

savages, and the negroes of the Sudan, as we shall see presently, are in many ways a comparatively civilised race.

There are many tribes of negroes differing from each other in their ways of dressing and living, and it is not possible, in this chapter, to deal with all of them. Most of the following account refers to tribes of negroes living in

Nigeria, the land through which flows another of the great African rivers, the *Niger*.

As there is an abundance of grass, herds of cattle, sheep, goats, horses, asses, and camels are reared. Some of the negroes are *cattle-raisers*. Owing to the presence of the lion and other beasts of prey in the savana the animals cannot be left out at night, as they are on the prairies of America. They are driven home every evening to be penned in an enclosure surrounded by a high wooden fence.

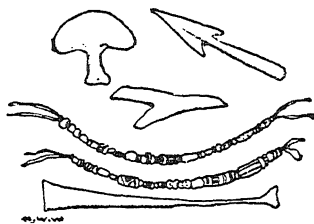
As the trees are scattered it is possible to break up the ground in between, to make fields, and to cultivate them. Hence some of the negroes are *farmers*. They grow chiefly rice, maize, wheat, bananas and other kinds of fruit, vegetables, cotton, and tobacco. The monkey is the chief enemy of the crops, and many of the children are employed to bang drums and make other fearful noises in order to drive away the thieves.

In the Sudan there is no lack of good food. A man can have beef and mutton, though cattle are not often killed for food. Rice is eaten boiled, in cakes and in many other ways. Porridge made from maize is a favourite dish and milk is a common drink.

Very little clothing is worn on account of the heat. Most of it is home made and of cotton. When the cotton plant is ripe, it is brought to the huts in bundles and the seeds

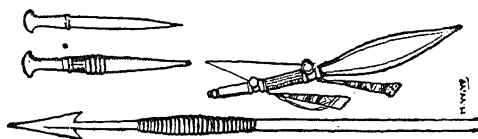
are picked out of the white fluffy part by the women and children. The cotton is then woven on hand looms into long narrow strips which are finally made into such clothing as is worn or else sent away to be sold elsewhere. The

commonest ornaments are necklaces of beads, or anklets and bracelets of brass or iron. The negroes possess iron and a number of other metals and they are good blacksmiths. They



TOOLS AND ORNAMENTS.

use hammers and anvils and blow up their fires with big bellows. Out of the iron they make swords, daggers, scissors, knives, spears, hoes, rings, and ornaments for wear. From the skins of their flocks and herds they get leather, and from this they make bridles, sandals, and

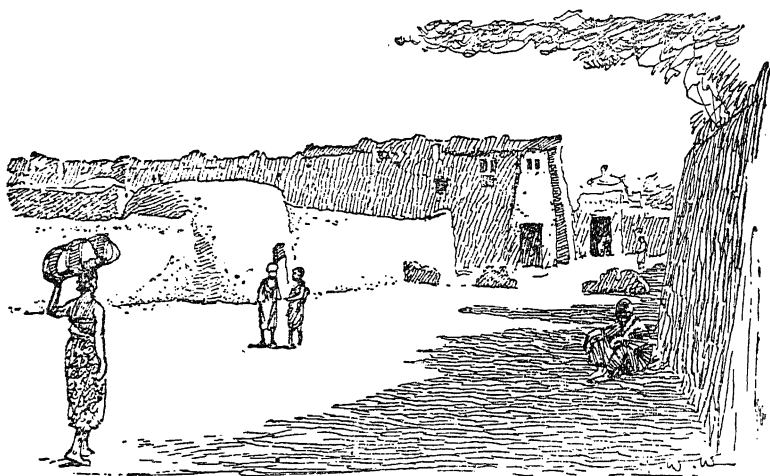


WEAPONS.

harness. They also make leather jars in which they keep fat, melted butter, honey, and beeswax. From clay they make earthenware vessels. We can say, therefore, that the negro is a *manufacturer*.

Further, he is a *trader*. Through the savana

pass long caravans carrying things from the forests of the south to the lands much farther north. Where the caravan roads meet men settle to trade and we have towns. One of these, *Kano*, is surrounded by a high wall of clay fifteen miles in circumference. It is provided with gates of wood plated with iron ; these



IN A NEGRO TOWN, KANO.

are closed every evening at sunset and not reopened till the dawn. In the markets of Kano only one kind of thing is sold in one place. Here you can buy leather goods, sandals, slippers, straps, and dyed sheep-skins ; there you can purchase manufactured goods from Europe. Buying and selling may be carried on by *barter* and not by the exchange of money.

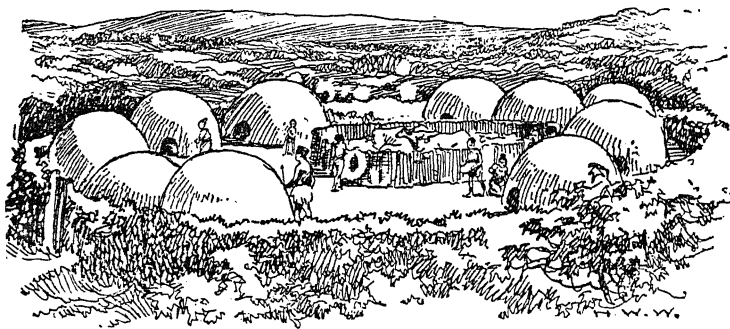
If money is used at all it may be thin flat pieces of iron shaped like a T or even nothing but a handful of cowrie shells.

It is easy to understand that the negro does not wander about like the Eskimo or the pygmy. His farms, his markets, and his blacksmith's forges keep him at home. He can, therefore, have a house to live in and not a tent. The house is of grass and the bark of trees and is roofed with leaves. There are two doors but no windows, so that the interior is dark ; if there were windows they would let in the sun's rays and the house would be very hot. On the wall hang a number of baskets ; on the floor is a stone on which grain can be ground. The beds are of poles and the spoons and dishes of wood. The negro cleverly uses the things that Nature has given him in abundance, in order to make himself comfortable. He even chews a bit of soft wood to get a toothbrush and he sweeps the floor with a bundle of twigs.

When man builds a house and settles down he gathers around him a number of things that he would not be bothered with if he had to be continually on the move. He has more furniture, more comforts, more of the things he calls " his own," that is, he has more *property*. And because he lives in a place where there are many people he can talk to them and learn from them, and so he has more *ideas*. He becomes more

civilised. It is clear then that the negroes we have been describing are civilised.

Now south of the big wet forest there is another grass land very much like the Sudan, and there live other dark-coloured people, among them the *Zulus*. Some of them have cattle, while others cultivate crops—maize, tobacco, and millet. The men look after the cattle and the women work in the fields. Few



ZULU KRAAL, SHOWING OUTER FENCE AND CATTLE CORRAL.

clothes are worn, but bead ornaments and bronze rings and bangles are common. Houses are made of pointed laths, stuck in a circle in the ground, bound together at the top, and covered with grass or reeds so that they resemble beehives. Again, there are no windows; the entrance is a small opening, so narrow that one has to crawl through it on hands and knees, and closed at night with a door of basket work. The huts are built in a circle and a collection

of huts forms a village or *kraal*. This is surrounded by a strong circular hedge of thorns provided with one gate which is closed at night.

The Zulus live under conditions much the same as those in the Sudan. Both climate and vegetation resemble each other. And therefore, though negro and Zulu are hundreds of miles apart and separated by the big forest through which neither of them can pass, they both live in very much the same kind of way. But the Zulus are not quite so civilised as the negroes. They have no big towns and they are not manufacturers. Still, because they stay at home and till the ground they can have houses, they can make certain things, and they are more civilised than those of their African brethren who are for ever wandering in the mazes of the forest.

CHAPTER XIV

THE ARABS OF THE DESERT

As we come north from the forest where it is always wet, less and less rain falls and there are fewer and fewer trees, but it still keeps hot.

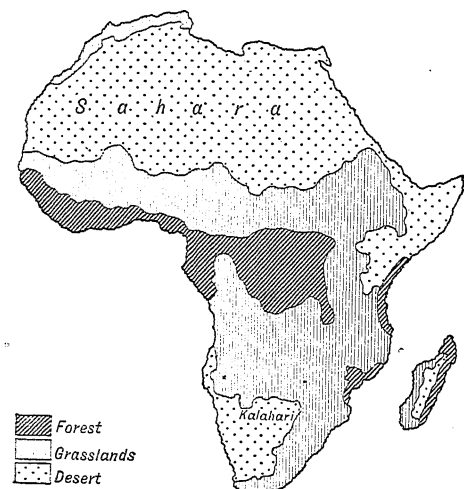


FIG. 23.—MAP OF AFRICA TO SHOW WHERE THE FORESTS, GRASS LANDS, AND DESERTS ARE.

First the trees fail altogether and there is nothing left but grass, and at last there is no rain at all and we reach the desert. As we go south from the equator the same kind of thing happens and

in time we reach another desert. The desert of North Africa—the *Sahara*—is very large; the desert of South Africa—the *Kalahari*—is much smaller. In this chapter we deal with the Sahara desert and its inhabitants, the Arabs.

The Sahara is a broad tract of country covered with sand—grey, golden, or whitish—and not all of one colour like that on the sea-shore of



A SANDSTORM IN THE DESERT.

England. It is not flat, but rises and falls in little hills. The heat at midday is intense, and at that time men often rest and sleep. For miles and miles nothing is to be seen but sand and rocks. Sometimes a sand-storm blows and the air is hot like fire. The sand sweeps onwards like a burning mist, filling the eyes and ears with hot, stinging grains. The only way to escape

death is to cover the head with some part of one's clothing and fall flat on the ground. Even the camel learns to bury its head in the sand at such times.

There are very few plants in the desert, but there are prickly acacias, thorny plants and coarse grasses, that prevent the loss of any moisture they contain by means of their thick skins, and there are other plants that store up moisture in bulbous roots. But all these plants are few and hardly any of them are of much use to man.

As no one can grow things in the desert and as there is no grass or enough of any other kind of vegetation on which animals can be reared, the land is, as its name explains, *deserted*. Here and there in the lower-lying parts of the desert water is to be found. Rain falls in the countries far to the south and the west; some of this flows a long way underground and leaks out in these lower spots. Here there are gardens and fields, for the desert is fertile enough when water is obtainable. A great part of the "sand" is not really sand at all, but dust, in which plants grow well if the soil is kept wet. The fertile spots in the desert are called *oases*, and if it were not for the oases, it would be utterly impossible for man ever to cross the wide sandy wastes.

Two kinds of life can be lived in the desert, one by the people who make their homes at the oasis, and another by those who spend their

time in the desert itself. At the oasis sheep and cattle and goats are reared ; the Arab is a *stock-raiser*. Fruit, rice, and millet are grown ; he is a small *farmer*. The chief tree at the oasis is the date palm. It is a tall straight tree whose stem can be used for timber and whose leaves can be used for making huts.

The dates grow in bunches at the top and are used for food. The Arabs eat them fresh, dried, and cooked in many different ways. A handful of dates is a meal in itself, and dates are among the most important things that are sold in the little markets.

The Arab is also a *trader* ; he sells to the people who pass through the oases as they make their way across the desert and buys from them. Besides growing grain and rearing animals, the dwellers at the oasis dry dates, make leather out of goat-skins, pottery out of clay, and blankets and carpets out of the hair and wool of the animals they rear.

The houses are of stone or clay, without windows, to keep out the heat. They have flat roofs where the inhabitants sleep in order to be cool. The poorest people of all live in huts



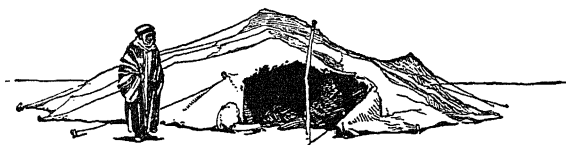
DATE PALM.

made of palm leaves. An oasis is not always the small place shown in some pictures, with two palm trees and a camel. It is often thirty miles across and may contain many small towns or villages.

The Bedouin Arabs who wander about in the desert live a very different kind of life. They have flocks and herds, and because there is little water and grass at any one place, and what there is is soon used up, they are always moving from one spot to another. Their chief animal is the camel, which is called the Ship of the Desert. The camel can carry a load of 400 lbs. and travel 30 miles a day. It has a long neck, so that it can reach the grass as it goes along; it has a hard mouth, so that it can eat the prickly plants that grow here and there amongst the sand. It can close its nostrils when a sand-storm comes, and it has long eyelashes to shade its eyes from the glare of the sun. It must kneel to be loaded, and has hard pads on its knees. It can store up fat in its hump and water in its stomach, and so can go several days without anything to eat or drink. All that happens is that its hump gets smaller and smaller. Without the camel, trade and travel in the desert would be impossible.

The camel provides its owner with milk to drink, hair for making ropes, cloth, and rugs, and sometimes flesh to eat.

In order to live his wandering life the Arab must have a tent. This is made of cloth woven from the hair of the goats and it has a large number of poles. The ends of the cloth are fastened into the ground with pegs. Across the inside of the tent, cloth is stretched to divide it into two parts, one for the women and another for the men. The floor is of clean sand, but at night rugs and carpets are put down on which to sleep. Inside the tent are the saddle-bags, boxes of clothes, beautiful mats, rugs and cushions.



ARAB TENT.

When it is time to move to another well or oasis, the tent is taken down in a few minutes, the tent poles are tied together, the covers are rolled up, and the pegs and rugs are made into bundles. One camel kneels in the sand and is loaded with the tent and the poles; another is loaded with mats, cushions, and bags of dates. A third carries water in bags made of camel-skin, and milk in smaller bags made of goat-skin. The women and the children ride on the camels, the servants walk, and the masters go on horses.

The Arab horse is a fine animal, brave,

swift, gentle, and beautiful. An Arab will part with anything rather than with his horse ; and at noon, when all must stop because of the heat, the horse is taken into the tent to be shielded from the scorching rays of the sun.

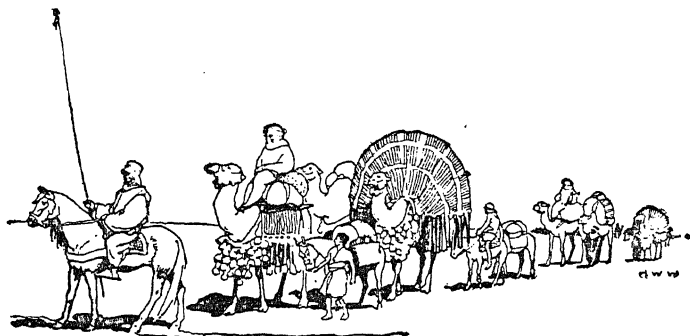
Because the supply of water and grass is small, men often fight for water at the wells ; the wandering Arab is a *fighter* and very often, out in the lonely desert, where there is no policeman to see him or to catch him, he often attacks and robs some other wanderer less strong than himself ; he is a *thief*.

There is no change in the desert ; it is to-day as it was thousands of years ago, and the Arab is like the land in which he lives. He does not alter ; he learns nothing new. There is no one to learn from. He is brave, strong, and proud. He is clever enough to be able to live in a land where you and I would die. He can find his way for days where we should be lost in a very short time. He can see things afar off and hear sounds at a great distance that we should not notice. He loves his wild, free, hard life, and looks down with contempt on the men who live in the small towns that grow up round the oases.

The desert gives him little, and to satisfy his wants he becomes a *trader*. He parts with his young horses and he sells butter and also salt, of which there are supplies in the desert. In exchange for these things he gets flour,

coffee, and clothes for himself and barley for his horse.

A Bedouin Arab can get his living also by acting as a *guide* and by driving camels. When people have to cross the desert they fear to lose the way and so miss the wells, and they are equally afraid to meet with robbers and so lose their lives. Because of the robbers they travel together, and long strings of camels may sometimes be seen marching across the sands. These



A CARAVAN IN THE DESERT.

parties of men and beasts are called *caravans*. The leader of the caravan, the Arab guide, has to be able to find his way swiftly and surely, and he is well paid for his work. If he misses the way all die. When he sets out, he is king of the caravan, and when he has brought it safely home men thank him as one who has saved their lives.

We see, then, that it is necessary to settle down in one place if man is to produce anything,

but that it is necessary to move from place to place if man is to trade. The negro settles to produce things : the Arab moves from place to place to take things that are produced from one place to another.

We have now taken a look at a large part of Africa and we find that there is a big forest in the centre round the equator ; that north and south and east of this there are grass lands ; and that north and south of the grass lands there are deserts. Also we have noticed that forest, grass land, and desert have different kinds of people in them eating different food, wearing different clothes, living in different houses, and, when you are older, you will know and understand that they even think differently.

CHAPTER XV

THE NILE AND EGYPT

WE have seen that the north of Africa is largely a desert where man cannot live except in certain favoured spots called oases. Now Egypt is a country that is really nothing else but a long narrow oasis stretching across the desert from south to north. Only because water comes to it in a curious way can anything be grown there. If it were not for this regular supply of water Egypt would just be desert like the land on either side of it. But water has always been brought to the *Nile* and, therefore, for thousands of years people have been able to settle and raise crops and Egypt has long been civilised.

There is always some water in the Nile because the river begins in *Victoria Nyanza*, a big lake lying on the equator, in that part of the world where it is wet at all times. Hence the Nile flows steadily all the year round, although part of its course lies through a waterless region. In its upper course it is joined by two rivers from the mountains of *Abyssinia*, the *Blue Nile* and the *Atbara*. *Abyssinia*, like the Sudan, receives

rain in summer, and when the snows on the high mountains have melted and the heavy rains have fallen the Blue Nile becomes a rushing torrent. It pours down what were dry courses in winter and causes the floods that do duty for rain in Egypt in bringing water to the fields. But the flood water has such a long distance to go that it takes several weeks to travel from the

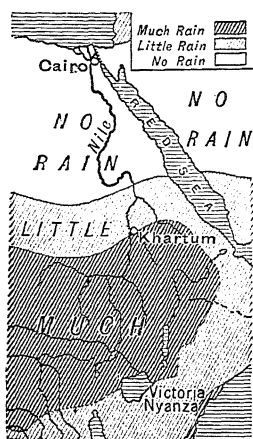


FIG. 24.—MAP TO SHOW
WHERE RAIN FALLS IN
SUMMER.

mountains of Abyssinia to the plains of Egypt.

From *Khartum* to the sea, during the winter, the amount of water in the Nile steadily decreases. Much is lost by evaporation owing to the heat, for of course it is still hot in winter, and immense quantities are pumped up to be distributed, by means of hundreds of canals, to the thirsty fields. The floods begin in June and the river rises from 40 to 45 feet. If less

than this rise takes place there is a shortage of water and scanty or no crops. If the rise be greater, then the homes which are built on the slightly raised parts are flooded and whole hamlets may suffer serious damage. From the Atbara to the sea there is no tributary at all, for from that place to the sea the river flows through a land where there is no rain. The

valley of the Nile is simply a big trough first cut in the rocks by the river itself and then filled with the fertile soil—*alluvium*—brought from the mountains of Abyssinia.

This oasis is 700 miles long and from 5 to 10 miles wide. Like all oases, it is below the level of the rest of the ground. Tall cliffs come fairly close on either side and the native boats have high sails to catch whatever breezes blow. Crops can be grown where the land has been wet by the Nile, and if we could look down upon the landscape from an aeroplane, we should see in the centre of the picture the long thin line of the chocolate-coloured Nile glistening like a mirror in the sun, on either side of it a narrow strip of green where the water has brought life into the waste. and then, as far as the eye could reach, nothing but the parched yellow soil of the barren desert.

It is clear that the Egyptians must, for the most part, get their living by *farming*, and so there is not much need for towns. Egypt possesses two large cities—Cairo, the modern capital, and Alexandria, the chief port—but the number of towns is very few. The *fellaheen*, as

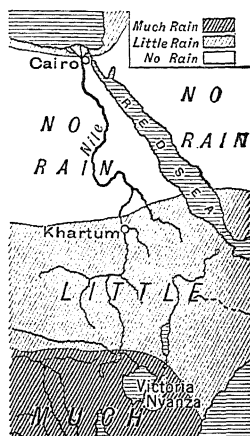


FIG. 25.—MAP TO SHOW WHERE RAIN FALLS IN WINTER.

the peasants are called, live in villages near to the river but usually on ground high enough to escape the floods. Occasionally the villages are built on flat land and protected from the rising water by thick walls. In the centre of the village is an open space with the house of the *sheikh* or chief on one side of it.

The houses are mere huts one story high, and built of bricks made of the mud of the Nile and dried in the sun. Such bricks could only be



DISTANT VIEW ACROSS THE NILE VALLEY.

used in a country where it does not rain, for a few heavy showers would soften the walls and cause them to fall. The roofs are flat and covered with a pile of cotton-stalks and other litter. There are no windows, but light and air are sometimes admitted through a few small holes. The only furniture consists of one or two mats, water-pots and cooking utensils.

When the Nile overflows its banks it brings not only water to fill the canals and reservoirs,

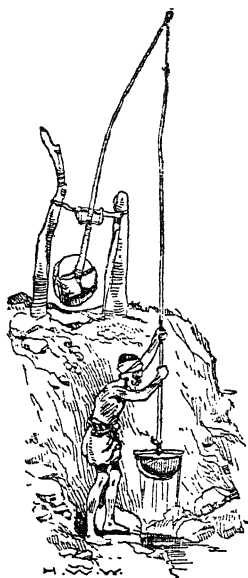
but also a supply of rich fertile mud in which seeds are afterwards sown. In this soil two and even three crops a year can be raised. No land is wasted on either grass or wild flowers, but all is under cultivation. The plants largely grown are those common to many hot countries—cotton, rice, and palms, and, in the cooler season, maize, barley, flax, and wheat. The inhabitants of the



THE GREAT COTTON CROP IN EGYPT.

valley are clever farmers and work hard from morning to night. They have a soil and a climate well suited to agriculture; their only need is water. This is obtained from the river, and from the very earliest times Egypt has understood and practised the art of irrigation. There are canals in all directions and the banks of the canals are the roads. The Nile floods do not cover the whole of the land and big canals

have been made throughout the country. These have smaller branches that carry the water wherever it is wanted and take the place of hedges as boundaries to many of the fields. To raise the water to the higher levels *shadufs* and water-wheels or *sakias* are employed.



SHADUF.

The shaduf consists of a long pole with a leather bucket at one end and a heavy lump of mud at the other. It is balanced on a short beam supported on two pillars about four or five feet high. The bucket hangs over a small pool that is connected with the river by a narrow channel. The fellah pulls on a rope or pole, lowers the bucket into the pool and fills it. He then lets go and the mud weight lifts the bucket; this is then emptied into the canal. When the level of the river has fallen some distance it cannot supply the little pool, and another shaduf is built below the first one to lift the water into the pool and keep it full. Sometimes there may be as many as four of these shadufs, one above the other lifting the water step by step to the higher drier land above. The work is exceedingly hard, the heat is

excessively great, and the toilers wear little or no clothing while they perform their task.

The water-wheels or sakias are of two kinds, but each consists of a horizontal wheel turned by bullocks. The spokes stick out like cogs and so turn another wheel placed at right angles below it. The wheel used in the fields has a hollow rim divided up into little boxes that pick up the water when the rim is in the water and discharge it into a narrow ditch when they reach the top. "Those used on the river bank, however, are too far from the water for such a wheel to be of use, so in place of the hollow rim the second wheel has also cogs, on which revolves an endless chain of rope to which earthen pots are attached, and whose length may be altered to suit the varying levels of the river."

The ancient Egyptians did not know what it was that caused the river to rise every year and bring them soil and water. To them this annual gift of a new life to the fields was a very wonderful thing, and they worshipped the river that was so kind to them ; the Nile was regarded as a god. We, in our times, understand quite well what causes the river to rise, but it is none the less wonderful because we know how it happens.

CHAPTER XVI

INDIA, WHERE TEA GROWS

IN previous chapters we have shown how the Portuguese brought spices from India, how tea was and is still brought, and how, to-day, wheat is an important export. In another chapter we have found out that wheat grows best where the climate is warm but not too hot and where the summer is dry. We may now inquire what are the conditions best suited for growing tea.

A glance inside a tea-pot shows us a mass of *tea-leaves*. When the tea is obtained from the grocer, in a packet, it does not look much like leaves, and it is only when we have poured hot water on it that we can see plainly that what we are dealing with is leaves, and sometimes stalks. The chief part of the tea plant, then, is leaves, and the great idea of a tea-planter is to get as many of them as he can.

But the forests of the Congo and the Amazon, where the trees are in leaf all the year round, teach us that plenty of rain and plenty of heat are required in order to obtain plenty of leaves. At the same time, the tea-plant does not thrive if water is allowed to stand about its roots, so

it cannot be grown in these hot wet plains. To get the water away from the roots it must be grown on a hill-side in order that the water can drain away. Hence the places where tea grows best are hot, wet, and hilly. Wheat is grown in places where it is dry, warm, flat. If, then, both tea and wheat come in large quantities from India, India must be a country where

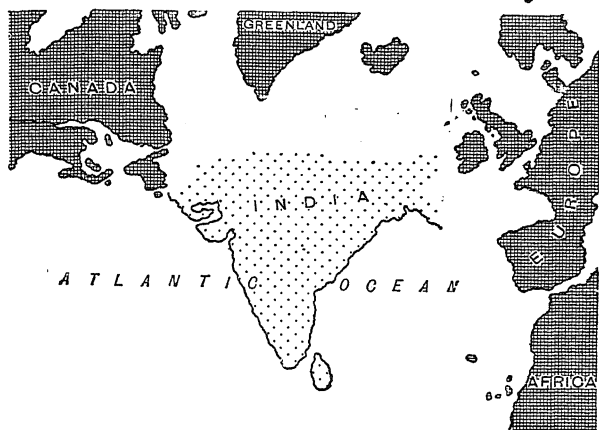


FIG. 26.—MAP TO SHOW HOW BIG INDIA IS.

India is supposed to be lifted up and placed in the Atlantic. It stretches from Ireland to Newfoundland.

there are very different kinds of climate and different kinds of surface.

India is a very big country indeed. If it were placed in the Atlantic between America and Europe, the *Himalayas*, that form its northern boundary, would stretch almost from Ireland to Newfoundland. In a land of this size there are many different kinds of country.

A map of India shaded to show the high land is fairly simple to understand. In the north there is a belt of very high land, the Himalayas; south of this, and running across the land from east to west, is a low plain consisting of the basins of the two big rivers, the *Indus*

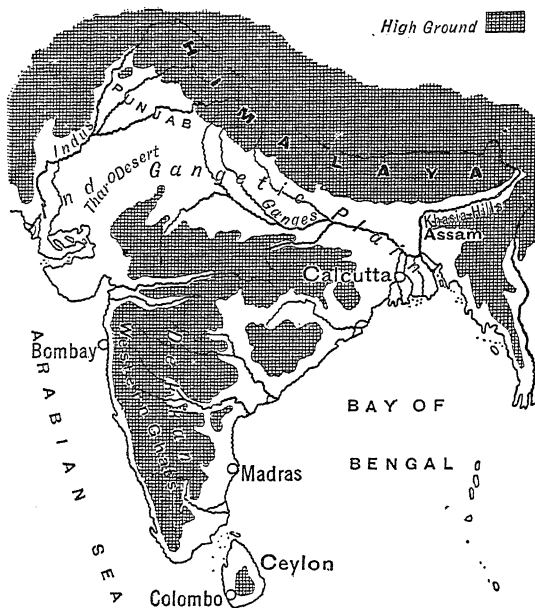


FIG. 27.—MAP TO SHOW THE HIGH GROUND IN INDIA.

and the *Ganges*. In the southern triangular part of the peninsula there is a high tableland, the *Dekkan*, whose steep western edge forms the *Western Ghats*.

If we look for the wheat lands we look for the warm, dry, level lands. Now, all India is

warm at sea-level, and there are no really cold parts except high up on the summits of the mountains. The level lands are in the plains and on the plateau, and wheat is grown in many places in these regions, but the chief wheat district is in the north-west, in the *Punjab* and the *North-West Frontier Province*. Here the land is level enough, and the temperature

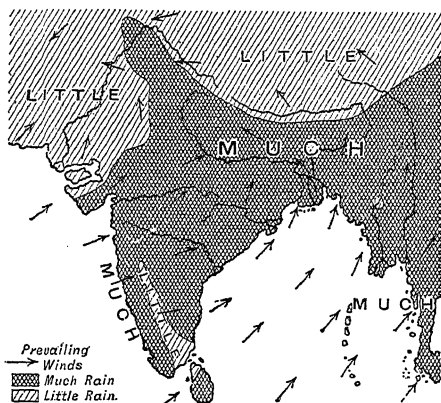


FIG. 28.—MAP TO SHOW WHERE THERE IS MOST RAIN IN INDIA IN SUMMER.

in February or March, when the wheat ripens, is only about as hot as the summer temperature in some of the wheat lands of the United States of America. Moreover, the north-west is fairly dry. In fact, it is so dry at times that rain fails when it is most needed, and the land has to be irrigated.

Rain is brought to India chiefly in the summer and by the south-west monsoon. From

May onwards to December the air is damp, and heavy rains often fall, but they are heaviest from June to October. The wind crosses the Arabian Sea and meets the hills of *Ceylon* and the Western Ghats, where the yearly rainfall is very heavy. By the time the winds have crossed the mountains they have lost a great

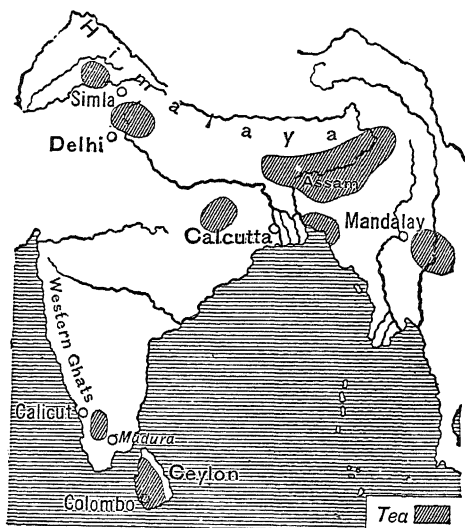


FIG. 29.—MAP TO SHOW WHERE TEA GROWS IN INDIA.

deal of their moisture, and the rainfall is only about a quarter of what it is on the west.

From the *Bay of Bengal* the air current reaches the *Khasia Hills* in *Assam* and brings tremendous downpours. This current of air is then turned to the west; it meets the *Himalayas* and heavy rains fall on the plain of the *Ganges*.

One part of India is low and sandy and therefore very hot in the summer. The wind reaches it from the west, and is a dry wind, not a damp one. Hence there is little or no rain, and we have the *Thar* or Indian Desert.

If we look for the tea plantations we must look for them on the warm, wet hill-sides, and we find them chiefly in the Western Ghats, the hills of Assam, other parts of the Himalayas, and in Ceylon. The tea plantations are situated on the sides of those hills from which the forest has been cleared, and they vary in size from a few score to many hundreds of acres in extent. They usually have railway connections with the larger towns, good roads and drains, and well-equipped factories for the manufacture of tea.



TEA PLANTATION.

The tea shrub is planted in long, neat rows, and each shrub is so pruned as to keep it broad, flat, and under four feet in height, in order that the leaves may easily be plucked. Amongst the bushes *coolies* or labourers, both men and women, are always hard at work. There is much work to be done, not only in gathering

the leaves but also in weeding, for in this land of sun and rain weeds spring up rapidly and, if they were allowed to flourish, they would interfere with the growth of the shrubs. The coolies are thin, weak-looking people, for the heat is trying and fever is common. Some-



TEA-PLANTING: WITHERING LEAVES.

times, after heavy rains, the coolies may be seen working almost knee-deep in water and mud with a scorching sun overhead.

Only the buds and the smallest leaves are used, and they are picked, *one at a time*, chiefly by women and children; neat quick fingers are necessary for this kind of work. As the leaves are taken from the shrubs they are put into

baskets and carried to the factory. Here the baskets are weighed, for the coolie is paid according to the amount he has gathered. Then they are taken to the withering-room and the leaves are left to wither, all the night, on shallow canvas trays. The next morning they are rolled for half an hour in a rolling machine

and converted into a huge wet mass. This mass is broken up, spread on trays, and left to ferment. It must be carefully watched and the fermentation stopped at just the right moment or the aroma of the tea will be spoiled.

The tea is then thrown into a machine and dried by hot air. It is next sorted, by means of sieves, into tea of different qualities. The best kind consists of nothing but the little leaf buds, the next variety includes some of the young leaves, and the cheapest quality of all includes coarse leaves. In Ceylon practically everything is done by machinery from the time the tea



TEA CULTURE : TURNING THE LEAVES.

reaches the factory till it is shipped to the foreign markets, but in the Himalayas the sieves merely sift the tea roughly into large and small leaves, and the final sorting is by hand; nimble fingers pick out quickly the finest sorts of tea. The tea is dried yet once more, then taken to the warehouse, packed in lead-lined boxes and sent to Britain.

What with planting, weeding, picking, withering, fermenting, drying, sorting and packing there is plenty to be done before we can get a pound of tea for half a crown. And we only get it for half a crown because labour in India is very cheap. If the workers in the tea plantations received as high wages as the ordinary British working man, tea would be so dear that only rich people could afford to drink it.

CHAPTER XVII

THE PEOPLES OF INDIA

IN the last chapter we showed how big India is ; it is really very much like a "small continent," for it includes a number of countries whose peoples differ from each other in race, language, customs, and religion. India is as big as Europe without Russia, or, to put it in another way, it is fourteen times as big as the British Isles.

At least 150 different languages are spoken by the 315 million people who inhabit the land, and a native who goes very far from home would find it impossible to speak to or understand the speech of the people among whom he had arrived. A native of Madras, visiting, say, Bombay, would be, so far as language is concerned, as much a foreigner as an Englishman would be if he went to Turkey.

To understand why there should be so much variety and such great differences it is only necessary to think a little more of what India is like. In the first place, the different districts are more or less completely separated

from each other, and in the second place these different districts vary a great deal in climate and surface. On the western side of India are the steep, forested Western Ghats. These, in the days before the railways were built, made it almost impossible for people of the coast strip to travel inland, and hence these people differ in language and custom from the other peoples of India. The *Eastern Ghats* are not so high as the Western Ghats, but travel inland is difficult, and the rivers, that look such good highways on the map, are of no use to travellers, as they are unnavigable. Here, then, on the eastern coast is another set of people.

The Eastern and the Western Ghats are merely the steep edges of the high plateau of the Dekkan. It is separated from the coast strips in the way already described: on the north are the *Vindhya* and *Satpura* Mountains, which again are difficult to cross. The Dekkan, then, is another isolated area, for when travel is difficult, men usually stay at home.

In the north of India the Himalayas shut off India, as a whole, from the rest of Asia. It is true that there are one or two difficult ways over the lower parts of the Himalayas and, by means of these, various invaders have made their way into the country from time to time. But each body of newcomers drove

away the people whom they displaced, and forced them to take refuge in the mountains



THE HIMALAYAS.

and the forests ; thus both the old inhabitants and the new were separated ; they kept them-

selves to themselves and preserved their own customs.

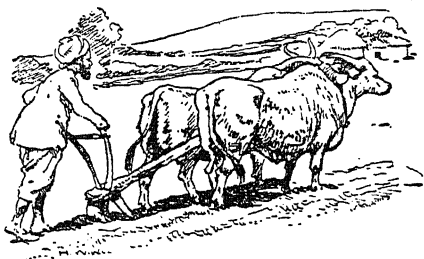
Differences of temperature have added to the differences caused by the surface of the country. India is, everywhere, a hot land at sea-level, but it has climates as different as those of a hot-house and an ice-field. There are perpetual snows on the Himalayas. At *Lahore* there are, during the cool season, frosts in the early morning, and people have fires in the houses in the evening. In *Colombo* there are no fireplaces at all, except for cooking, and the *punkah* or fan that cools the air of the rooms is kept going from Christmas to Christmas.

Differences of rainfall are equally important. Where rain is abundant, as in the valley of the lower Ganges, we have swamps and jungle; where there is little or no rain, as in the lower part of the Indus valley, we have the Thar desert, where not only people cannot live, but on which they cannot move.

All these differences mean differences in the way of living. Some of the people of India live in great cities like Calcutta and Bombay and Madras and Delhi, where you may meet people as civilised as Europeans, while some forest dwellers are little better than the pygmies; and so it happens that India, isolated from the rest of the world by seas and mountains, and divided up into compartments by river and

forest, mountain and desert, with different climates and soils and vegetation in different parts, has people with different customs in every different area, and that these governed themselves in their own way, kept their own manner of living, and hated foreigners; and everybody was a foreigner even if he lived in India, provided he lived in a different area. And yet on all the flat lands, that is, on the plains of the Indus and the Ganges and on the higher plain or

plateau of the Dekkan, men are alike in one thing: they are farmers, and life is centred in villages, not towns. Nine-tenths of the



PLOUGHING WITH OXEN.

people of India live on the crops they themselves raise.' Their methods of cultivation are not very scientific and the implements they use are very old-fashioned. The *ryot* or farmer uses a wooden plough and merely scratches the surface of the soil; he cuts his grain with a sickle, threshes it by hand or under the feet of his animals, and his women-folk grind the grain by hand as they have done for centuries. In this fertile country the farmer is everywhere a poor man.

But though most of the people are farmers they do not all grow the same kinds of things. In the plain of the lower Ganges, for instance, where the rainfall is heavy, the chief food crop is *rice*, but in the Punjab it is *wheat*, and on the Dekkan it is *millet*. Neither do they use the same kinds of animals when they travel or for work on the fields.



WINNOWERING RICE.

In the dry plains one sees the *camel* and the *horse*; in the North-West Provinces the *bullock* is common; in the plain of the lower Ganges it is the *buffalo*; and in the high mountains, where none of these are of any use, there is the *yak*.

Owing to the heat little clothing is worn. Three long strips of cotton with a blanket of coarse wool where the rain is heavy or the cold severe, suffice for both sexes. Food is of the plainest and is all home grown; millions of people never eat meat at all. The houses are built for convenience and not for beauty. Where the rainfall is heavy and wood and

grass and leaves are abundant, the walls are of wood and the roofs of leaves and grass. In the drier plains the walls are of mud for want of other materials. Life is lived in the open air except when cold or rain forces the people to go indoors. There is little furniture except a few rough bedsteads, and even these are not to be found in the homes of the poor. During the hot part of the year, and that means most of the year, people sleep outside their houses on the verandahs if they possess them, and if not, then anywhere, even by the roadside.

Nearly three-quarters of the people are Hindus, a darkish-brown race that once lived in Central Asia. They invaded India from the north-west and drove the natives into the hills and forests. To keep themselves separate from those whom they had conquered and whom they despised, they forbade marriage between the races. Further, they divided themselves into four classes or *castes*. Of these the Brahman or priest was the highest of all. Then, in descending order of merit, came the warrior, the trader or farmer, and the servant. Everybody who was not a member of one of these four castes was a *pariah*. To-day there are between



A WATER-CARRIER.

two and three thousand different castes, and every Hindu, except the very lowest, belongs to one or other of them. Each caste is shut off from all the rest as by an insurmountable wall. A man can take food from another of higher caste but not from one of a lower caste. People from one caste cannot marry any one belonging to another caste. Each trade is a separate caste and, therefore, a man has to keep to the trade to which he is born. If a



A POTTER.

grocer's son wanted to be a fishmonger or a shoemaker his friends would hold up their hands in horror and astonishment.

The caste system is bound up with religion, and religion in India not only says what a man shall believe but also how he shall eat, drink, and sleep, and what his trade shall be. But it has little to do with how he acts, for no matter how many sins he commits, he can wash them all away by bathing in the Ganges.

Just as there are different races and languages, so there are several religions. The Hindus believe in some form of Brahmanism. According to this religion there are three chief gods—Brahma, the creator of the universe; Siva, the destroyer; and Vishnu, the preserver

of all things—and many little gods like the Elephant God and the Monkey God. The sacred books are the Vedas, perhaps the oldest books in the world. When a man dies he is born again, and this will happen time after time, for thousands of years, unless he becomes pure in word, thought, and deed, after which he will rest for ever, and be born no more on earth. When a man is reborn he may come back as a man or an animal. It all depends on what kind of life he has lived. If he has been very wicked he may reappear as a slave or a beetle; if he has been very good, perhaps he will be a prince. As a man sows so must he also reap. To become good one can do good deeds—pray, fast, and inflict torture on one's self. There is no forgiveness.



NATIVE INDIAN
WOMAN WITH
CHILD ON HIP.

In the Punjab most of the people are Mohammedans, and there are altogether about 60,000,000 Mohammedans in India. These pray with their faces towards Mecca and swear by the beard of their prophet. Their chief article of belief is "There is no God but God, and Mohammed is His prophet." Mohammed taught that the Creator rules the universe with love and mercy, and is alone to be worshipped; that in times of adversity there must be no

murmuring against His decrees ; that He must always be looked upon with trustfulness and love. A Mohammedan also believes in eternal punishment for those who worship idols, or who do not believe in the prophet. He makes frequent ablutions, prays five times a day, goes on a pilgrimage to Mecca if he can find the time and the money, fasts often, does not touch wine or pork, and gives alms as a duty. His sacred book is the Koran, and his day of rest is our Friday.



BHILS.

Buddhism is the third of the great religions. It was founded by Buddha, the son of an Indian prince. He was born about the fifth or sixth century before Christ. He was so shocked by the wickedness and misery of the world around him that he became a hermit and thought out what he considered the best means of escape from the troubles of life. The aim of his religion is to reach a state called Nirvana, where both pleasure and pain cease for ever. Until a man reaches Nirvana he will be born again and again.

Then there are the Parsees, who worship the sun, the Sikhs, who hold services where they say prayers, sing hymns and listen to sermons much as we do, and yet others who

think that every hill and stream is the abode of a spirit.

Even on the Great Trunk Road that runs through the Ganges Plain you may see many different kinds of things and people. As the road stretches, shimmering in the heat, away into the distance, there passes along it much that we think about when India comes into our minds.

Here is the Kabuli trader, hook-nosed, beady-eyed, tall and gaunt with his high turban, long robes and shoes with turned up points, on the look-out to lend money to the needy or to recover it from those who are already in his debt. There is a wild-looking, long-haired Akali with blue-checked clothes and blue turban. That almost naked, clay-smeared person with his hair coiled on his head and bearing a trident in his hand is a *fakir*; that one, saffron-robed and spotlessly clean is a Hindu priest. Those flat-footed, strong-limbed women in the blue petticoats are *changars* who help to build embankments. Numerous women, dressed in a strip of common cloth draped gracefully about them and carrying earthenware pitchers on their heads or supported on their hips, move by with queenly step.



NATIVE POLICE-
MAN.

Now and then, a baby takes the place of the pitcher on the hip.

The most familiar sight is the bullock cart churning up the dust; the bullock, guided by reins of string threaded through its nostrils and urged forward by the twisting of its tail and the jabs of a short-handled whip, zig-zags along the highway. A Brahmini bull, fat, slow and lazy, feeds where it will and on what it pleases, for it is a sacred beast. An occasional camel, its approach heralded by the slow, regular, clear and beautiful sound of the bell that hangs over its shoulder, makes its appearance. Some-



WAITING FOR A TRAIN.

times there may be a line of camels tied head to tail, and sometimes one will be seen harnessed to a camel cart—double-decked, dirty and

crowded with a whole family and its belongings. The camel is a stately beast, when the road is dry; when it is wet its soft padded feet slither north, south, east and west.

Everywhere there is colour—blue, red, yellow, brown and saffron; everywhere there is noise—the harsh cry of the bullock driver, the laughter of children, the bleating of goats,

the clucking of half-starved chickens, the snapping bark of the mangy pariah dog, the buzzing of millions of mosquitoes, the chirping of crickets, the music of a wedding party and the never-ending chatter of a never-ending procession.

To tell of all the different races, religions, and customs of India would fill many books, and here we have only one short chapter in which to touch upon the fringes of the subject. But perhaps it is long enough to make you understand that "India" is not a country with one or two races, but a great medley of all kinds of people who do not understand each other's speech or believe in the same gods, and who do not even love one another as members of one common country.

All this makes it difficult to govern India properly.

CHAPTER XVIII

CHINA

“WILL you take China tea or Indian ? ” is a question asked of guests in many houses. And such a question tells us, even if we did not know it before, that India and Ceylon are not the only countries that produce tea and that in China also this precious leaf is grown.

In Chapter XVI. we learned that tea grows on warm wet hill-sides. Therefore there must be some parts of China that are mountainous and that possess a damp, hot climate. But China, like India, is an enormous country with millions of people, mostly farmers, living in it. It contains more people than the whole of Europe ; in fact it contains a quarter of all the people living on the surface of the earth. And because the country is so large it must possess many different kinds of climate ; it will probably then possess many different kinds of soil and surface, and we can, therefore, guess that the same kinds of crops will not be grown everywhere and that only in certain parts of this extensive country will the tea shrub flourish. Let us see if this is so.

First, we know that tea grows best in a hilly country. What kind of surface has China? China is divided chiefly between the basins of three enormous rivers. In the north is the *Hwang-Ho*, a river that rises in the dry and dusty highlands of *Tibet*. The west winds

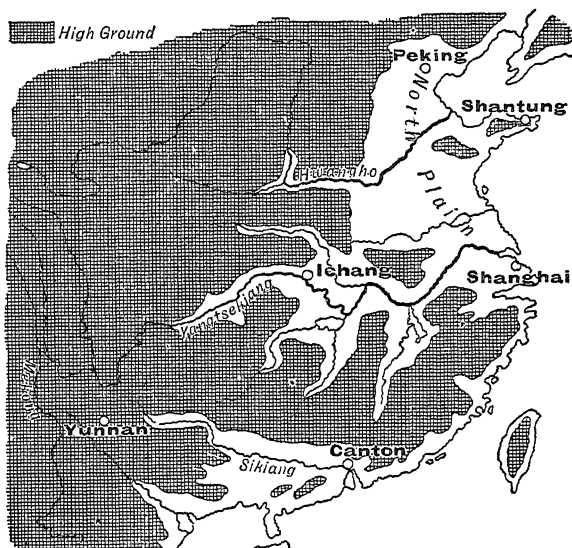


FIG. 30.—MAP TO SHOW WHERE THE PLAINS AND VALLEYS OF CHINA ARE.

that blow in winter across this part of the earth have been driving the dust of the table-land before them for so many centuries that hills and valleys are, in some places, hundreds of feet below the level of the surface of the deposits of dust. Such deposits are called *loess*, a word which means *loose*. Through the

loess the Hwang-Ho and its tributaries have carved their way, making in the course of time a number of steep-sided ravines. Millions of people live on the floors of these valleys, for the soil is very fertile where there is water. Many of the people live in caves which they have dug out in the steep sides of the valleys, and even where it is known that there are thousands of dwellers it may be almost impossible to find a single house. The loess is a crumbling yellow kind of earth which stains everything that it touches. The soil is yellow, the houses are yellow, the roads are yellow, Hwang-Ho means Yellow River, and the national colour of China is yellow.

As the river comes out of the mountains it bears a heavy load of fine silt, and with this it has built up the Great Plain of China, perhaps the most thickly peopled plain in the world. At its northern end stands *Pekin*, the capital of China. The city is divided into two oblong towns, one for the people and one for the government, and each is surrounded by high thick walls that were built to keep out robbers. The two towns are again enclosed by a wall and a moat. *Pekin* is a dirty city and is troubled, from time to time, by the dust-laden winds from the west.

Much of the silt which is brought down by the Hwang-Ho is, every year, deposited on the bed of the river itself, which is thus raised so

high that when the floods come, the water overflows the banks. To prevent this, as far as possible, embankments have been built and millions of trees planted on them, but, at times, the embankments give way, terrible floods follow, and the river changes its course. Until 1852 the mouth of the river was on the south side of the *Shantung* peninsula. In that year the banks broke down, the river took another path and flowed into the *Gulf of Pechili*, that is, the river mouth moved 300 miles to the north. In 1887 there was another big flood; a thousand villages were destroyed and a million people drowned. On account of these disastrous floods the Hwang-Ho is called "China's Sorrow," and there are no large towns near the banks of the river in its lower course.

As tea grows on the sides of mountains we shall not expect, for that reason alone, to find farmers cultivating the tea shrub on the Great Plain of China.

In South China there are long ranges of mountains running roughly east and west. In their valleys there are a number of big rivers, the chief of which is the *Yang-tse-Kiang*. It rises in Tibet, but little is known about it till it reaches the province of *Yunnan*. At *Ichang* it cuts its way through a mountain range, becomes a foaming torrent, and prevents steamers from getting further up the stream.

But small boats are often hauled through the rapids, as many as 200 men being harnessed at the same time to a single boat. As the waters rush through the narrow passage they wear away the sides of the cliffs, dash the boulders from side to side, grind the loose rocks into fine mud, and carry this, with their other loads, from the mountains, to be dropped lower down where the speed of the current is slower. The plain that surrounds the lower part of the Yang-tse-Kiang is made up of the mud brought down by the river. There are, however, rarely any floods like those of the Hwang-Ho, for the Yang-tse-Kiang is connected, by means of short tributaries, with a number of lakes, and these lakes have to be filled up first before the river can rise high enough to overflow its banks.

South of the Yang-tse-Kiang are more ranges of mountains, and then comes the basin of the third of the big rivers, the *Si-Kiang*. This rises in the high lands of Yunnan and flows eastwards. At its mouth it forms a large delta and in its course there are a number of rapids; but it is, all the same, a fairly useful waterway.

If tea grows on the sides of mountains it will probably grow in one or both of the valleys of the two rivers last mentioned. But, secondly, tea requires warmth and moisture. The north of China is farther north than London; the

south of China is farther south than Cairo. There must then be great differences of temperature due to this fact alone, that China stretches so far north and south. The summers, how-

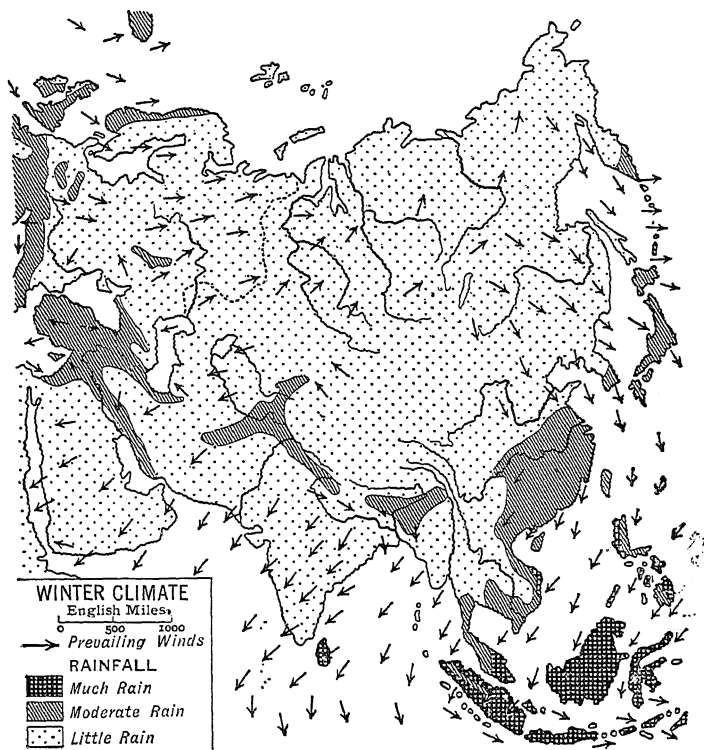


FIG. 31.—MAP TO SHOW WHERE RAIN FALLS OVER ASIA IN WINTER.

ever, are everywhere warm ; the winters, which are mild in the south, are very cold in the north ; the northern plain is so cold in winter that lakes and rivers sometimes freeze. That

is not the land for tea. Even at *Shanghai*, near the mouth of the Yang-tse, it can be so cold in winter that one is glad of a thick overcoat.

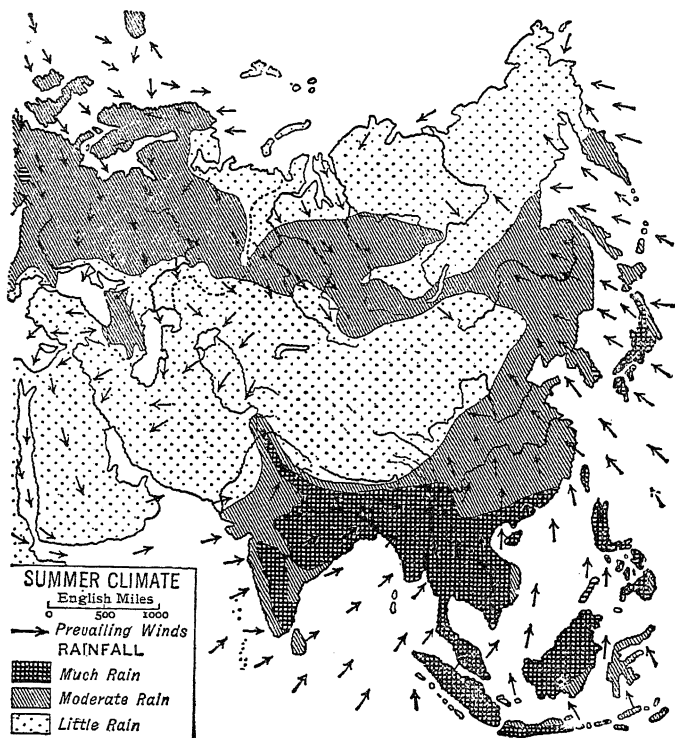


FIG 32.—MAP TO SHOW WHERE RAIN FALLS OVER ASIA IN SUMMER.

Because Asia is such a big mass of land it loses heat very quickly in the winter. Just as in India, winds in winter blow from the interior outwards towards the sea. These winds

are cold and dry and bring bitter gales in the north, and sometimes frosts as far south as *Hong Kong*. These cold winds are a good thing for the people of southern China, for they brace the people up and prevent them losing energy, as they might do if the climate were always hot.

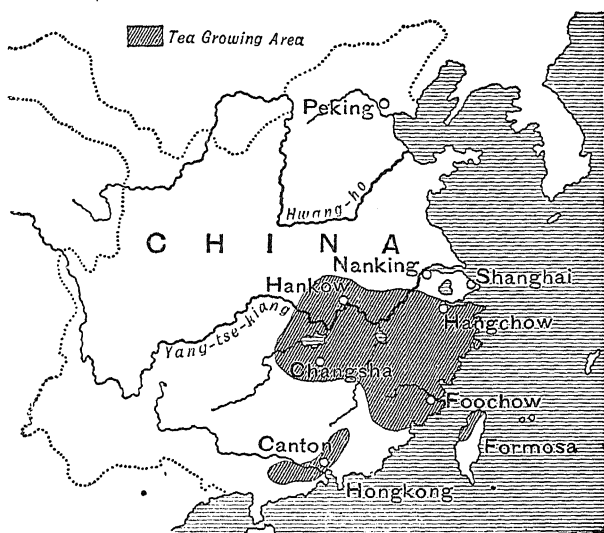


FIG. 33.—MAP TO SHOW WHERE TEA GROWS IN CHINA.

In summer the land absorbs heat quickly and the temperature of all parts of China rises. The winds, again, as in the case of India, now blow from the sea to the land, and, wherever there are mountains, these winds rise and are cooled and bring heavy downpours of rain. In southern China then we can find places

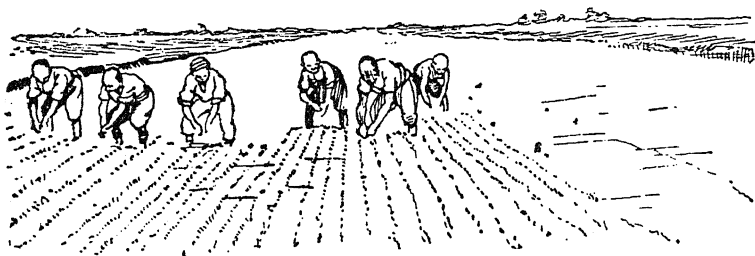
something like those we have seen in India—mountainous, wet, warm. It is in the mountainous district especially near the coast between the valleys of the Yang-tse and the Si-Kiang that tea is grown—just where we should expect to find it.

But though tea cannot be grown everywhere, other things are grown—cotton, rice, millet, oranges, mulberries and even palms, bananas, and pineapples on the warm lowlands of the south. The Chinese, like the people of India, are mostly farmers, and there are so many of them that no land can be wasted. The farms are small and without hedges, and the farmers and their families are models of industry. During the busy season everybody—men, women, and children—works from early dawn till dark, Sundays and weekdays alike. Grain is cut by hand; the roots are pulled up to be dried and used as fuel. In the autumn even the grass roots and the stray leaves and flower-stems by the roadside are collected for the same purpose. The methods of farming may be simple and old-fashioned, but the industry, cleverness, and patience of the people make up for this, and grain enough for all the millions who inhabit the country is produced.

There are few sheep or cattle, for the land is too valuable to be set apart to grow food for them. The Chinese can seldom afford to eat meat, though the poorest occasionally make

a meal of cat, dog, rat, or mouse. The chief food animal is the pig, because it can live on refuse, and so can be reared without taking up too much room.

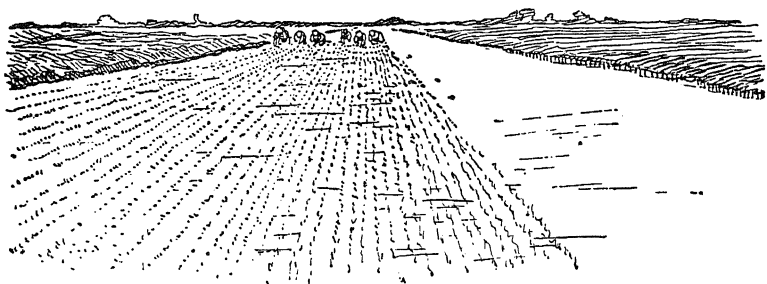
But the chief grain and the chief food of China is rice, which grows in the valleys of all the three rivers, for it grows rapidly, and can be grown wherever there is plenty of rain and heat, and, as we have already seen, the rain comes to China in summer when all the land



TRANSPLANTING RICE PLANTS INTO THE PADDY FIELDS.

is hot. Rice is sown in wet ground and sprouts in about a week. Three or four weeks later the young plants are transplanted into the "paddy fields." The fields are completely under water and are simply masses of mud. They require very careful weeding, and this is an unhealthy and difficult task, as the labourers are, at all times, knee-deep in the water. They get rheumatism, and that is the reason why they smoke opium—to deaden the pain. As water is so important in the cultivation of

rice, the plant can only be grown in the low-lying deltas, or in the plains that are flooded after the rains, or else in places where the land can be irrigated. And in China men can be seen watering the fields in much the same ways as in Egypt. "By a system of buckets fastened to an endless chain and passing over an axle, which is turned either by the feet of men or by a connecting wheel worked by oxen, the water is raised from the river or canal to the



TRANSPLANTING RICE PLANTS: THIRTY MINUTES LATER.

level of the fields, where it is discharged into the troughs at the rate of sometimes 300 tons a day. This is the sakiah of the Egyptians; and should any traveller from the banks of the Nile visit the plains of China he might recognise in the method adopted for raising water from wells the shaduf of the land of the Pharaohs. A long horizontal pole, at one end of which is a bucket, and on the other a certain weight, is fixed on an upright in such a position that on raising the loaded end the bucket

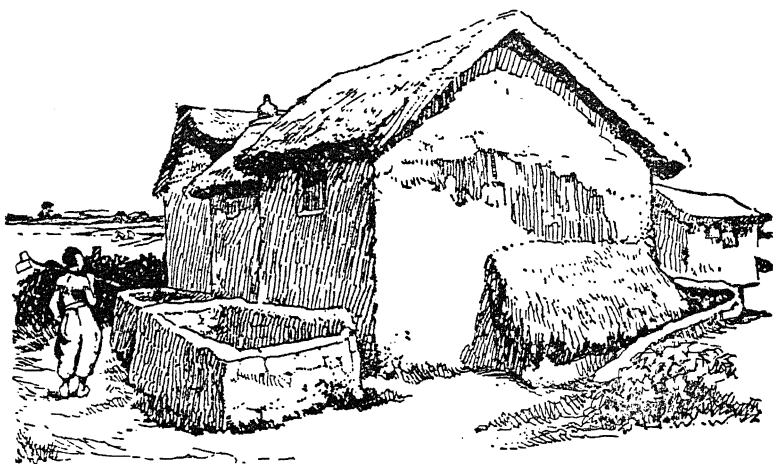
descends into the well, and with the help of the counterbalancing weight can be raised full of water with ease and rapidity. If the level of the river or canal be only triflingly lower than the field to be irrigated, two men standing on the bank, and holding a bucket between them by ropes, draw water very quickly by dipping the bucket into the stream and by swinging it up to the bank, where its contents are emptied into the trough prepared to receive them."

On the banks of the rivers and by the open sea men catch fish in enormous quantities. There are 40,000,000 people in China who get their living by catching fish. Because rice is rather tasteless the fish that is eaten with it is often kept till it has a nice strong flavour. For the same reason pungent spices and hot sauces are much appreciated.

In building houses wood is not much used. The houses are often roofed with rice straw, especially in the rice-growing districts, and even the sides of the houses may be thatched with the same material, as such a covering tends to keep the interiors cool in summer and warm in winter, but it does not last long and has to be replaced every three to five years. When the old straw is pulled off it is either burned for fuel or used for manure in the fields, and even if it be burned for fuel the ashes will be taken to help to feed the new crops. The commonest building material is clay, of which

there is plenty. Wherever there is an abundance of fuel the clay is baked, but in the northern plains, where fuel is scarce, the bricks are just dried in the sun and, sometimes, they crumble away in a heavy rain and let the roof down.

Chinese tea, rice, silk and other things come



CHINESE FARM HOUSE.

It is built of clay and thatched with straw. The storage pits hold manure for the ground.

to Britain by much the same route as they do from India, but the journey is longer. The ships are loaded up at one or more of the ports that act as collecting stations for the different valleys. There is one at the entrance to the Yang-tse-Kiang on the north of the mountains, and one at the entrance to the Si-Kiang on the

south of the mountains. For the Si-Kiang valley the port is *Canton*. The Chinese will not allow the foreigner to buy and sell wherever he pleases. He can only trade in those places agreed to by treaty; such ports are called Treaty Ports. Canton was the first of these ports to be opened to the foreigner. It is really three towns: (i) The native town on land, surrounded by a high wall for purposes of defence. The streets are narrow and covered in with matting, so that they are stuffy and smelly, but, on the other hand, they are warm in winter. There are no cabs, but persons are carried about in sedan chairs.

(ii) The second part of the native city is on the water. About a quarter of a million people live in boats, because the river provides a fine highway for trade and an abundance of food in the form of fish, and, further, the use of the river in this way sets free more land for farms. Thousands of people are born in the boats, brought up in boats, and never set foot on land during the whole of their lives. They rear chickens and even pigs in cages hung over the sides of the boats. There are floating houses, floating markets, floating theatres, floating jails, and floating policemen.

(iii) The third city at Canton belongs to the foreigner. He could not live in the narrow, crowded, dirty, stuffy streets, so he has a little town of his own with broad clean streets and

well-built houses. He can go into the Chinese town if he wishes, but no Chinaman is allowed in the white man's city without a pass.

As trade increased and ships grew bigger the ships required good harbours for shelter, strong places for defence, and means of storing coal. Near to the entrance to the Si-Kiang valley there was a rocky island with a magnificent harbour, and here is the British trading centre of Hong Kong. It is well placed as a port for southern China, and it is one of the most important ports in the world, collecting and distributing goods in many directions.

The Yang-tse-Kiang valley is even more important, and the trader sought for an entrance to it, but there were two difficulties: in the first place the Chinese would not give him a treaty port, and in the second the estuary is so low and marshy that there was no suitable ground on which to build a big town. In 1843 the Chinese agreed to open the Yang-tse-Kiang valley to foreign trade, and the place chosen for the port and market was the first spot south of the marshy estuary where one could be built. This is Shanghai, not on the Yang-tse-Kiang itself, but on a small river that flows into the same delta. It is over fifty miles from the sea and nearly twelve miles from the junction of its own river with the main stream.

We can imagine, then, that our ship has been loaded up at one of these or at some other

port and is making the journey to England. It will have to go a long way south in order to get round the end of the mountainous, forested Malay peninsula. At the southern end of this peninsula is the British coaling station and port—*Singapore*. Like Chicago, at the end of a lake where many routes meet, so Singapore is at the end of a peninsula where many sea roads converge. From Singapore the vessel crosses the southern end of the Bay of Bengal and makes for Colombo, where again the British flag is seen flying, and where stores of coal are kept for passing ships. Then the southern part of the Arabian Sea is traversed, and the vessel arrives at Aden. There we can leave it, for from there we have already traced the way home. But if our journey from Singapore to Aden has been made in fine calm weather when the ocean is like a plain of oil by day, and the sky a palpitating flame of summer lightning at night, it will leave memories that will linger long after all the rice has been eaten and all the silk been worn to rags.

CHAPTER XIX

JAPAN

A COMMON Japanese fan is, in its way, a tiny geography book of the country, and so much information is not often given in such a little space. There are, of course, many different kinds of fans from Japan, but there is one so common that it is familiar to everybody. It is made of



A JAPANESE FAN.

split *bamboo* and covered with *paper*. On the paper there are pictures of *flowers* and *fir trees* and of a *mountain*. The mountain is conical in shape and has a white cap on the summit. What does all this tell us ?

The conical shape of the mountain indicates that it is a volcano : the snow on the top that it is very high. The fir-trees say that the country is cold and damp, for these are the trees we have seen in the Canadian forests. The bamboo tells a different story and says that the country is warm and damp. Then the paper is *rice* paper, and that means that Japan is very warm and damp. If both fir trees and bamboos and rice

grow in Japan, then the country must stretch a long way from a cold north to a much warmer south.

After the fan comes the map, to help us to find out whether the story we have read out of the fan is correct or not. And the map shows first that Japan is a mountainous country, so

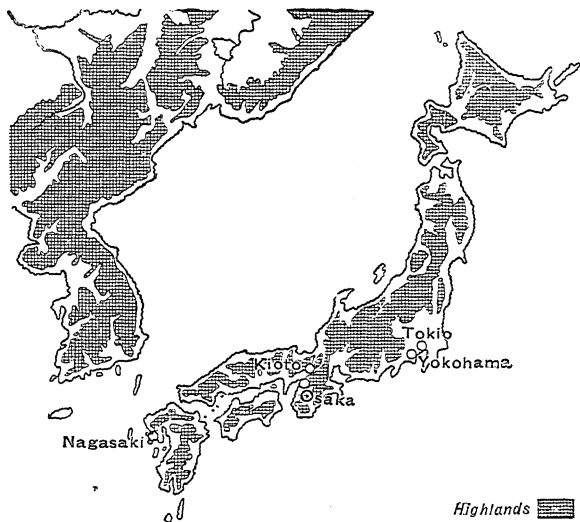


FIG. 34.—MAP TO SHOW THAT JAPAN IS A MOUNTAINOUS COUNTRY.

mountainous that there are but few plains and therefore but little land for growing crops. Amongst the mountains there are a number of volcanoes which sometimes pour out streams of molten rock or *lava* and clouds of steam and of red hot dust. The most beautiful of all the volcanoes is *Fuji-yama*. It is so beautiful that if you approach *Yokohama* from the sea,

soon after dawn, when the distant blue mountain melts into the deep blue of the sky and the snow-capped summit seems to hang in the heavens, all by itself, you do not wonder that the Japanese put it on their fans and pictures and even make pilgrimages to worship at the white altar up above them. It is covered with snow only in the winter, but it is always covered with snow in the pictures and on the fans, sometimes white and sometimes tinged with pink and purple as it is seen in the glow of the sun at eventide.

Where there are volcanoes there are usually earthquakes, and scarcely a week passes without a small one somewhere. Most of them are too small to do any damage, but occasionally the land shakes violently, huge cracks appear in the ground, houses are thrown down, and much destruction is caused. In 1923 a disastrous earthquake killed about 150,000 people and did £250,000,000 worth of damage.

The north of Japan is as far north as the north of England; the south of Japan is as far south as the south of Morocco. Also a cold current from the Arctic washes the northern end of the country and a warm current from the south washes the southern end of the country. Hence we get temperatures suitable both to the fir tree and the bamboo. And it is everywhere wet. As mentioned in the last chapter, the winds from Asia blow outwards in the winter when the

interior of the continent is bitterly cold. They cross the sea and bring some rain with them to Japan. The summer winds blow inwards from the sea and are therefore wet; they bring much rain to Japan. There is rain enough in every part of the country to support the growth of trees, but the kind of forest depends on the



RICE FIELDS IN JAPAN.

temperature and the most luxuriant forests are in the warmer south.

The mountains occupy so much of the surface of Japan that there is little room left where men can work and live. Only about one-sixth of the country is suitable for farming, and yet farming is the chief industry. The Japanese have made the very best possible use of all the

land that can be cultivated and they are perhaps the cleverest farmers in the world. They work hard and long ; they dig with the spade and do not plough, because in this way they get better crops. They weed the fields as we weed the garden, and they grow many varieties of food, the chief of which is rice.

Plants from which paper can be made are also important. Paper is used for almost everything. The Japanese have paper walls to their houses, paper caps on their heads, paper string, paper pocket-handkerchiefs, and even paper cloaks and shoes. Some of this paper is so strong that it is almost impossible to tear it and some of it is so water-proof that the rain cannot get through it.

Another common plant is the *bamboo*, a kind of grass. Its hollow stem is used for every purpose from building houses to making fans. It is used for screens, hats, sails for ships, paper, and even for water and gas pipes.

As there is so little flat land and so many people to feed, the fields cannot be given up to grow food for sheep and cattle. Therefore, there is no wool for clothes and no butter or cheese for food. There is no leather for shoes, and these are therefore of wood, so that the carpenter is the shoe-maker. And as there are few horses, except in the north where there is a little grass, and few people, the Japanese ride in jinrickshaws—a kind of big perambulator

with shafts. These are pulled by men who travel long distances at a good speed and for very little pay. There is not much animal food except fish, but of this there is an abundance in the streams and the sea. The silkworm produces material for clothing, and there happens what seems to us a curious thing, and that is that silk clothing is cheap and woollen clothing is dear.



A BUSY STREET IN TOKIO.

Tokio is the capital of Japan. Notice the jinrickshaw.

Poor people wear silk ; only those who are better off can afford wool.

Many Japanese houses are not built of stone or brick on account of the earthquakes. These houses are very simple. The roof is of tiles or thatch and is very heavy in order not to be blown off in the strong gales that come during the winter season. The roof is supported by four poles at the corners and these are commonly

of bamboo. It slopes steeply in order to throw off the rain and it projects well beyond the walls to give shelter from the sun. Japanese hats are shaped like Japanese roofs and for the same reason. The walls are made of thick oiled paper and at night shutters of wood are put up all the

way round. The insides can be divided up by paper screens into as many rooms as the family requires. There are no chairs or beds, for people sit and sleep on thick rice-straw mats on the floor. The size of a room is usually given in the number of mats it takes to cover the floor, thus one room is a four-mat room, another an eight-mat room and so on. There are no tables, though a small stool may be used as a kind of table.



JAPANESE HOUSE AND RICE FIELD.

Such flimsy houses are very liable to be destroyed by fire, and if a man possesses valuable pictures or pottery he stores them in a safer place and only has one or two of them at home at a time. In this way he has plenty of time to look at them and admire them, and it

is partly due to this that the people are so fond of beautiful things. Houses such as we have described do little damage if an earthquake brings them to the ground, and they cost but little to repair or rebuild.

The houses can be opened not only at the front but all the way round by the removal of the paper screens that form the walls. It is quite a common custom to take out these walls



NAGASAKI HARBOUR.

Nagasaki is the port on the west of Japan.

and so allow everybody in the street to see everything that is going on inside. It is a good thing to have open houses of this kind because the heavy rains come when the heat is greatest and, at that time, the air is unpleasantly stuffy. The Japanese are fond of fresh air and sunshine and have their houses open to keep them sweet.

The seas between Japan and Asia are stormy, and this helped, in days gone by, to shut off the

Japanese people from the people of the mainland. In the winter, when the winds blow from Asia to Japan and when people might have come across the narrow waters, there were terrible snow-storms and fogs that kept them at home. In the summer, when the weather is fine the winds blow strongly from Japan to the continent and tend to keep out visitors. In this way the Japanese formed a nation, away from other people, and grew up fond of their own land, proud of its beauties and intensely loyal and patriotic.

Perhaps the suddenness of the earthquakes and the volcanic outbursts taught the Japanese to meet sudden danger and even death without shouting or weeping. Certainly they can keep their heads in times of peril and face danger without fear.

Perhaps the open houses, where all life is seen by everybody, have had something to do with the politeness of this nation. It is no use pretending what a "sweet" person you are when you are in some one else's house if you are really bad tempered in your own. Everybody knows exactly what you are like when you are in the bosom of your family. And if one is rude to a Japanese he does not get angry and say nasty things back again, but preserves a calm and dignified behaviour, perhaps the greatest possible rebuke to a person who has lost his temper and exhibited his bad manners.

CHAPTER XX

THE LAND WAY FROM CHINA

have seen how tea comes to Britain from a—by sea. But part of the tea which is out of China to be sold in Europe can be ed overland to Russia. Formerly it was ed by camels and it was therefore necessary uck it in as small a space as possible. The es were ground, steamed, and then com-ed into flat blocks something like small tiles. In this form it was and is exported "brick tea" and is used in some parts of al Asia as money. The caravan is rapidly ming a thing of the past and the tea is now ed chiefly by the Trans-Siberian Railway. n the course of its journey the railway erses the north of Asia from east to west ly through the Russian territory of *Siberia*, gh the first part of the journey lies through Chinese territory of *Manchuria*. The first astern half of the journey is through a atainous country that forms part of that lerful system of highlands that fills up al and eastern Asia; the second or western of the journey is across a part of the great

plain that fills the northern parts of both Europe and Asia.

We will board the train at *Vladivostok*, the Pacific terminus of the line. It has a splendid harbour, but this is frozen over in winter. At first we cross the plains of Manchuria, but we presently reach those mountains of which we have spoken above. In places they are thickly forested. Amongst the mountains there are

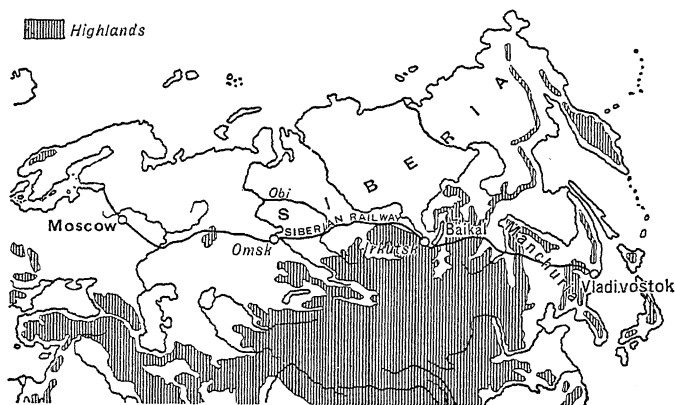


FIG. 35.—MAP TO SHOW THE GREAT LOWLAND OF EUROPE AND ASIA.

many tunnels, one of which is a mile long. Nowhere do we find great towns or thickly peopled areas, but here and there are settlements of miners who extract silver and other valuable minerals from the ground.

The most mountainous part of the journey comes to an end in the neighbourhood of *Lake Baikal*. This lake is long and narrow and is the deepest freshwater lake known. It is surrounded

at the southern end by huge granite cliffs which rise precipitously from the water, and the work of constructing the railway along these shores was so difficult that for a long time there was a break in the communication. The gap was filled up by steamer connection across the lake, or, in the winter, when the lake was frozen over,

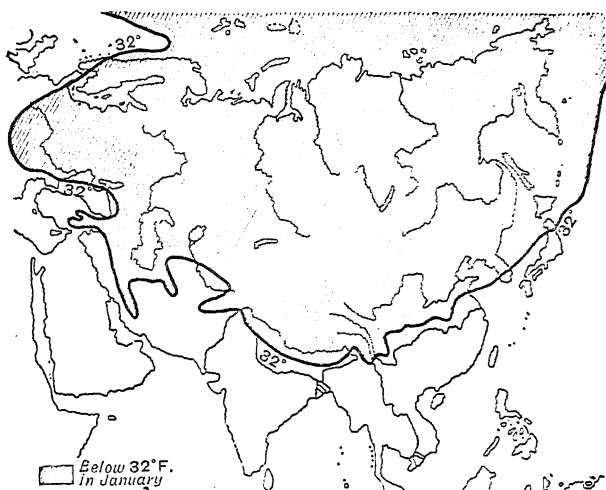


FIG. 36.—MAP TO SHOW HOW MUCH OF ASIA IS FROZEN IN WINTER.

by ice-breaking steamer. But in 1904 a road was blasted out of the cliffs and the railway linked up east and west.

Near the western shore of the lake is *Irkutsk*, a curious mixture of wooden houses and stone public buildings. It has been called the "Paris of the East," but it is not a very comfortable place in which to live, for in summer it is hot

and in winter the cold is so severe that the mercury freezes in the thermometer. A number of caravan routes—west, east, north-east—meet at Irkutsk, but as the railway is extended and branch lines are made the caravan routes tend to disappear. At Irkutsk there is a great trade in furs obtained from the forests and tea which is brought from China.

West of Irkutsk we enter a forest belt like

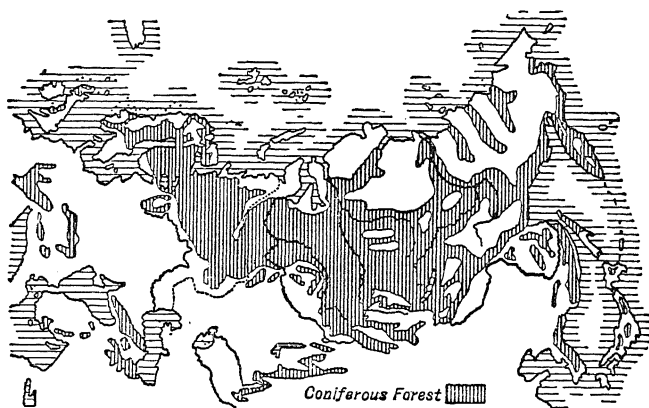
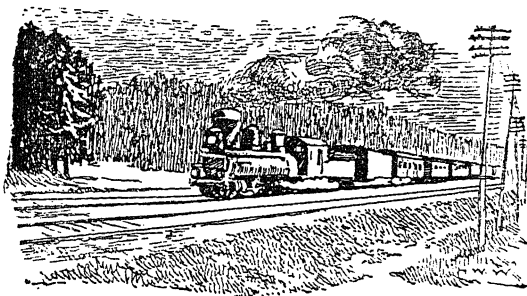


FIG. 37.—MAP TO SHOW WHERE THE GREAT FORESTS OF SIBERIA ARE.

that of Canada and get a glimpse of the wonderful wealth in timber that Siberia possesses. The forests are so extensive that parts of them have never been visited by man. Even the boldest of the fur hunters have never gone much farther than perhaps fifty or sixty miles into the interior of these gloomy woodlands. The journey is monotonous, for the trees are often all alike for mile after mile. Wood from the forests

supplies the train with fuel, and blocks of wood are stored at the railway stations in the same way that we store coal. Handling wood is lighter and cleaner work than handling coal and many women are employed in this kind of work.

Once we have crossed the *Ob* we enter the part of Siberia that really counts—the rich agricultural land where men can farm and make a good living. It is a land of black earth and is bordered on the north by the forest and on



SIBERIAN RAILWAY TRAIN.

the south by the barren and waterless steppe. Here are found five-sixths of the population of Siberia. They are mostly Russians who have settled down and who have been given grants of land. They are supplied also with agricultural implements and with cattle and seed in order that they may successfully establish themselves.

The peasants live almost entirely in villages or hamlets and in houses made of wooden logs with the chinks between them filled up with moss or

mud. The soil is so rich that it yields most fruitful crops and there is an abundance of live stock, especially horses. In the centre of the steppe region is *Omsk*, the "capital of the steppes." In the neighbourhood of *Omsk* thousands of cattle are reared and a flourishing trade in butter is carried on.



SIBERIAN PEASANT.

Between Europe and Asia the *Ural* mountains must be crossed, but they are so low that they present no difficulties to the engineer. Once on the other side we are in the plain of European Russia. The European terminus of the line is *Moscow*, and the distance from *Vladivostok* to *Moscow* is between

4000 and 5000 miles. The long journey shows us a hilly forested region at one end and a flat fertile land at the other with a flattish forested region in the centre.

CHAPTER XXI

STEPPEES AND STEPPE DWELLERS

THE Trans-Siberian railway crosses the Great Plain of Siberia. This is the biggest plain in the world and contains much more land than the whole of Europe; it is shaped something like a triangle with high land on two sides and a frozen sea on the other. Like the plain of North America, it has tundra in the cold north, then forest and then wheat lands, but whereas the North American plain leads south to the warm wet shores of the Gulf of Mexico, this Siberian plain leads south to land that is so dry that part of it is desert.

The hot desert is in Western Turkistan in the south of the plain. Except near the oases nothing grows but a few prickly plants, and there can be no people living except where the land can be watered. Through the Sahara desert flows the Nile, on whose banks men live and farm. On account of the never-failing water supply in Victoria Lake the Nile never dries up. Through the desert of *Western Turkistan* flow two rivers, the *Amu Daria* and the *Syr Daria*, but neither of these is so useful

as the Nile. They get their water from the snows that melt on the mountains and they are not very full except for a few months. As long as the Syr Daria is receiving water from other streams in the mountains it is 20 to 40

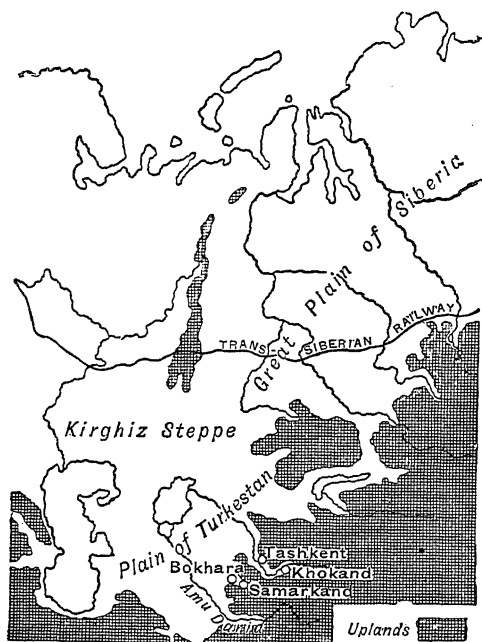


FIG. 38.—MAP TO SHOW THE PART OF THE PLAINS WHERE THE KIRGHIS LIVE.

feet deep and, in some places, a third of a mile wide. But farther westward it is a shallow stream that *sends out* branches which lose themselves in the sands. On the edges of the desert are the high mountains and from their sides

flow streams that never quite fail. The consequence is that the upper valleys have plenty of water, and cotton, maize, wheat, and fruit can be grown. In such oasis-like valleys there are settlements, and a map of this part of the world shows a ring of towns—*Tashkent*, *Khokan*, *Samarkand*, and *Bokhara*,—all flourishing amongst the fields and orchards that are fed by the waters that flow from the melting snows.

The tundra on the north of the plain is much like the tundra of North America and needs no further description, but we must note that no Eskimo live there. The Eskimo are a fishing race, a seafaring people, and they would be very unhappy in northern Asia. The poor tribes of the Asiatic tundra depend on the land and not on the sea, and are not nearly so well off as the Eskimo. They hunt and fish, move constantly, and, therefore, use tents. These are made of birch-bark or skins fastened over poles with a hole left in the top for a chimney. Beds are made of skins and dried moss; clothes are made of reindeer skin, food is reindeer flesh or fish. The reindeer is to these people what the dog is to the Eskimo and the camel to the Arab. It is the ship of the frozen desert; it also supplies milk, meat, and clothes.

South of the tundra is the forest that we have learned about in our railway journey, and south of this is the wide grass land or *steppe*, part of which we have also crossed in the train. These

grass lands are very much like the American prairies, not flat but undulating and without trees except in the broad deep valleys of some of the rivers. In the winter the land is extremely cold ; in the summer extremely hot. It is too far from the sea to feel the tempering effect of the sea-breezes.

On the steppes of Russian Central Asia live the *Kirghis*. At first it would seem as though the Kirghis and the Red Indian should lead the same kind of life, for both are dwellers on grassy



TENT USED BY THE KIRGHIS.

plains. But the Red Indian had no sheep or horses ; he had to be a hunter and chase wild animals. The Kirghis, on the other hand, had great herds of sheep, goats, camels, asses and horses ; they are shepherds, not hunters. But both are wanderers and dwell in tents. The Kirghis must follow his flocks and he cannot remain long in one place, because so many animals would soon eat up all the grass. The Kirghis' tents have walls of lattice-work which can be made to open or shut to alter the size of the tent at the convenience of the owner.

Wooden poles are fixed to the top of the wall and meet together to form a framework for the roof. The whole is covered with sheets of felt held in place by cords and ropes. The felt, cord, and ropes are made of the hair or wool obtained from the flocks. The women put up and take down the tents, while the men look after the animals. Inside the tents are beautiful rugs and carpets made of wool, and dishes of wood and leather.

When the family moves on to a fresh place the horses go first to get the richest grass. The cattle go next, and when they have had enough to eat, the sheep follow, and with their tiny mouths manage to get a good feed off grass that would have been too short for the big-mouthed animals. The horse is the most useful animal to the Kirghis, as, without it, it would be impossible to keep the flocks and herds from straying all over the plain and getting lost.

As there are so many animals, and as the grass often dries up in the hot summer, the different tribes each have certain parts of the country where they may take their flocks to feed. They can wander where they like as long as they keep to their own part of the country, but if one tribe wanders into the land belonging to another, there is fighting; the Khirgis is warrior as well as shepherd.

Each tribe needs a wide stretch of country to feed its many animals, and over this it

travels at a rate of from five to ten miles every few weeks. The road taken leads from one water supply to another, for though water is scarce in this thirsty land, every spot where it is obtainable is well known to the dwellers therein. In the height of summer the tribes go up into the mountains to feed their flocks on the pastures that have been freed from the snows, but they return to the plains again when the winter comes.

If a man's flocks increase very much he may need more grass and water for them than his own part of the country can supply. In such a case he wanders into land that does not belong to him and steals some other's grass and water. He becomes a *robber*, which is the meaning of the word Kirghis.

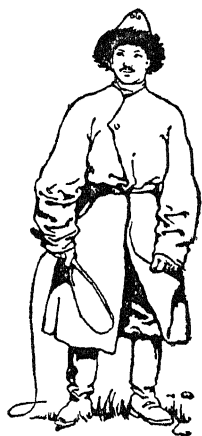
The Kirghis are also traders. Every year, caravans cross the grass lands as they do the deserts and savannas of Africa. When the shepherds meet the merchants they exchange horses and sheep and woollen rugs for grain, better clothes, wooden dishes and flour, and for some of that brick tea that has come overland from China.

The food of the Kirghis is chiefly the flesh of the animals they tend. Beef is not thought much of, but mutton and especially horse-flesh are favourite dishes. Horse-flesh is always served at big feasts. There is no bread, but a kind of porridge is made out of millet or some

other grain that has been obtained from the caravans. The common drink is milk either fresh or sour. A particular kind of sour milk is called *koomis*. There is always plenty of butter and cheese.

The Kirghis are fond of big families. A man's riches are measured by the size of his flocks and herds. But large numbers of animals need large numbers of people to take care of them. A man with only one son or servant would have to be a poor man; a man with a dozen children would stand a good chance of becoming rich.

The clothes are a long loose garment called a *kaftan* made of fur, felt, or linen, high boots of soft leather, and a cap of sheepskin. A rich man will have a velvet robe and perhaps a belt, bridle and saddle, studded with gold and silver and precious stones. The women dress much like the men, but they cover the head with pieces of white cotton cloth and not with a sheepskin cap.



A KIRGHIS WEARING HIS KAFTAN AND SHEEPSKIN CAP.

Though the Kirghis have many difficulties to fight against, they contrive to make themselves pretty comfortable.

CHAPTER XXII

THE CHRISTMAS PUDDING

A SHIP coming to Britain from India or China passes through the Mediterranean Sea. This sea is surrounded by a number of important countries like *Egypt, Greece, Italy, France, and Spain*. In other chapters we have learned how different things that we eat and drink are grown—wheat and meat, rice and tea. And in Chapter IV. we saw that the dry sunny valley of California was one of the places where fruit is grown. But the greatest of all the fruit-growing countries are those countries just mentioned about the Mediterranean Sea. It is from these lands that many of the ingredients of the Christmas pudding come.

Now if the lands of the Mediterranean are orchard countries, that will give us some clue to the kind of climate, for in the first place trees cannot grow without plenty of water, so we know there must be a fairly heavy rainfall, and fruits of the kind we have mentioned will not ripen unless the summer be both warm and dry, so we also know the rain falls chiefly in the spring and winter and the summer is a time of drought.

In China, India, and the savanna lands of Africa we have seen that just the opposite happens ; there the rain falls in the summer and the winter is the dry season of the year.

Let us see what kinds of lands these are in which fruit is grown.

Greece is very mountainous: among many of the mountains the sea runs in and out in all directions. Between the mountains and near the sea are a number of small fertile



OLIVE TREES IN GREECE.

plains where good crops can be grown. Round the coast there are hundreds of islands of all shapes and sizes, far apart from each other on the west, crowded together on the east, necklaces of green stones set in an azure sea. Greece is a patchwork quilt made up of the dark blue of the sea, the silver of the snowy mountain tops, the green of the plains, the bluish green of the olive trees, and the purple of the grape. There is plenty

of sunshine and the summer is hot, though not as hot as it is in the desert or the savanna. There is not enough fertile land to feed all the people, so some of them had to find other ways of getting a living. The mountains pushed them into the sea and they became sailors. It was easy to build boats, for there were then plenty of trees in the forests; to-day there are not so many forests, for the trees have been carelessly



A VINEYARD IN GREECE.

destroyed. The Greek sailors wandered to the eastern end of the Mediterranean where there were people with things to sell, and these things they carried away to other countries. They began as carriers, but soon they bought and sold for themselves and became keen traders, as they are to this day.

The two chief things exported from the country are olives and currants. From the

fruit of the olive the Greek gets oil which is of great value to him, for the dry hot summer withers the grass and prevents the keeping of many cattle. Thus there is an absence of butter or cheese, and olive oil is used instead of butter. The currant is a small grape that has been dried. The cultivation of this grape provides a great deal of work; the ground must be prepared, the trees pruned, the fruit picked and then packed to be sent all over the world. Packing cases must be made from timber and labels must be printed. Wine is also made from the same small grapes.

Italy is a long narrow peninsula. In the north are the high mountains, the *Alps*. On the high ground of course there are no fruit trees.

But the descent from the Alps into Italy is steep. The snow is soon left behind and the road winds through rocky gorges and forests of pine and fir. Below these are the forests of walnut and sweet chestnut, then the vine and, as the air gets milder and warmer, oranges, myrtle, and olive. At the foot of the Alps is the plain of *Lombardy*, the richest part of Italy. It has been built up of soil brought from the mountains and is fertile and level. Hence it is densely peopled. Through it runs the river Po and numerous tributaries; easily made canals add other roads and means of irrigating the fields. The plain is so hot in summer that

even rice can be grown in the flooded fields: in winter it is open to cold winds. On the plain are grown olives, mulberries on which silkworms are fed, and grapes from which wine is made. In other parts of the plain there are grass lands on which are reared cattle and, from the milk of these, several well-known kinds of cheese are made.

The Lombard peasant works hard and lives

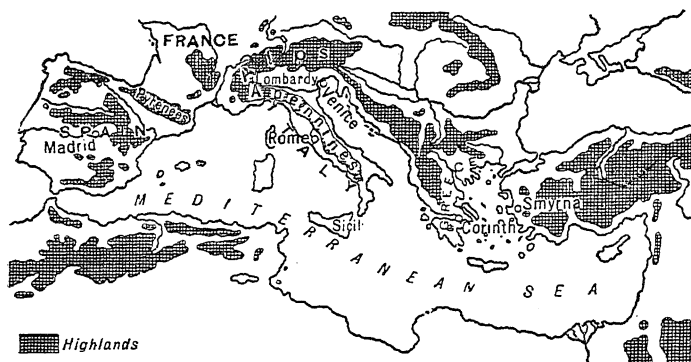


FIG. 39.—MAP TO SHOW THE HIGHLANDS OF EUROPE.

sparely. He makes his breakfast of maize porridge and water and his dinner of soup thickened with cabbages and turnips and flavoured with a little lard. He eats raw vegetables with oil and vinegar, and on special occasions he adds cheese, eggs, and dried fish. He rarely touches meat but he will eat frogs, snails, and hedgehogs. He is a busy person, always in the fields looking after his crops, and the men of the towns are clever business men

who also work hard and seem to be successful in everything they undertake.

The port of the plain is *Venice*. In the fifth century a number of people, fleeing from barbarian invaders, sought somewhere to take refuge. They found a place that had marshes and swamps at the back of it and sandbanks and lagoons in front of it. Here they were safe. They got both salt and fish from the sea and traded these for other things. They were in a good position for trade as they could send ships to Egypt and Greece and then forward the cargoes over the Alps into Central Europe. When the Cape route to India was discovered Venice lost much of her trade, but when the Suez Canal was cut some of the trade came back again.

South of the plain the *Apennines* fill the greater part of the peninsula, though there are narrow lowlands along the coast and a wider plain in the south-east. On the steep slopes mountain chestnuts are grown. These are ground into flour and form the chief food of the dwellers on the hillsides. As the summers are dry there is little grass, few cows, and no butter. Sheep and goats can be kept and they provide a little milk and some wool for clothing.

The capital of Italy is *Rome*, built on seven hills for defence against foes and floods ; it was on a navigable river, where there was an island that made it easy to build a bridge, and it was

far enough from the sea to be safe from pirates.

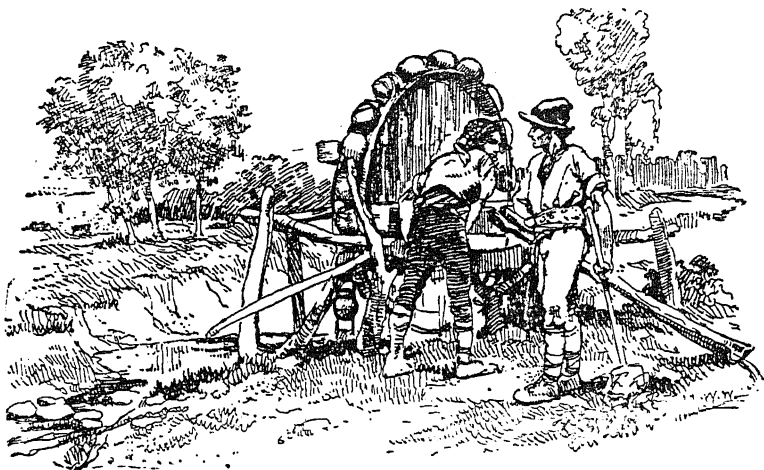
The peninsula of Spain and Portugal is at the south-western corner of Europe. It is shut off from the rest of the continent, for it is surrounded by sea except where the steep *Pyrenees* divide it from France. Three-fourths of it form a high plateau which descends steeply on all sides to the very narrow lowlands on the coast, or in some places right into the sea itself.

Spain is a very dry land, for, like the rest of the Mediterranean lands, it has little or no rain in summer, and in the winter, when the winds blow in from the west, the high mountain edge of the plateau receives all the rain brought by the Atlantic winds. Very few sea breezes ever reach the interior of Spain.

What we have said about the plants of Italy and Greece is also true for Spain; only plants that can withstand drought will live through the dry summer, and of these the chief are olive and vine. But Spain has also an important plant in the cork oak. This is an oak tree that has surrounded itself with a thick bark to prevent loss of moisture during the hot summer. The thick bark is cork. The first crop is taken when the tree is about twenty years old and is so coarse as to be of little use. After that, strippings are made at intervals of ten years each, for a period of perhaps eighty or ninety years. Care has to be taken that when

the outer bark is removed the inner one is' uninjured or the usefulness of the tree will be destroyed.

Then in all these countries there is little grass and few cattle. Sheep can, however, be sustained on scantier and shorter grass than cattle, and therefore sheep are not so un-



IRRIGATION WHEEL IN SPAIN.

common. And the merino sheep of Spain is world famed. But the most hardy of the domestic food-supplying animals is the goat, which will eat almost anything from withered shrubs to old boots. The goat gives milk from which cheese is made and hair which is turned into coats, ropes, and other things. The horse, like the cow, needs rich grass and is therefore

comparatively scarce in all these countries. Its place is taken by the ass, which is much less particular about its food, and the mule, which is hardier and more sure-footed than the ass. Its greater strength makes it particularly suitable for travel in a hilly country, but it has a most disagreeable temper. On the level plains oxen are used to pull both ploughs and carts.



LEMONS IN SICILY.

Almost in the centre of Spain is the capital, Madrid, about the worst-situated capital in Europe. The climate is hot in summer and very cold in winter, and the surrounding country is a barren sandy plain. Its river is a torrent in winter and a thread of water in summer and the subject of many jokes, such as "We know there is a river because there are bridges over it," or "Why doesn't the government sell the

bridges and buy some water to put in the river ? ”

But there is enough water, if carefully used, to irrigate the fields, and to grow the fruits we prize. *Seville* oranges, *Barcelona* nuts, *Valencia* raisins all grow in Spain.

If it had not been for the products of these lands we might never have known the delights of a really good rich Christmas pudding with its wealth of currants, sultanas, valencias, almonds, and orange peel. All these come from the Mediterranean countries. Currants get their name from *Corinth*, the port in Greece from which they are shipped, and valencias are named after one of the provinces of Spain. Oranges grow in Spain, Sicily, and round Smyrna, and there are many other fruits from these regions such as figs, lemons, olives, grapes, prunes, and nuts and, in the oases of the Sahara, dates.

CHAPTER XXIII

THE SWISS ON THE ALPS

THE great highlands of America run north and south ; the great highlands of Asia run east and west with a plain to the north of them and three mountainous peninsulas to the south: Europe is something like Asia in the arrangement of high and low ground. More than half the continent is a plain extending from the west of France to the east of Russia, where, except for the low *Urals*, it joins the great plain of Siberia. South of the plain there is a belt of plateaus, while south of the plateaus we have the great highlands running east and west from the Pyrenees to the *Caucasus* mountains, and then extending right across Asia. The greatest of the highlands are the Alps to the north of Italy.

The Alps stretch in a big curve from the shores of the *Gulf of Genoa*, round the north of Italy. They are twice as long as England and they cover almost as much land as England, Scotland, and Wales put together and in places are nearly a hundred miles broad. The highest peaks are nearly three miles high and are

crowned with snow and the upper valleys are filled with glaciers.

Different peoples live in one part or another of the Alps. In this chapter we deal only with the Swiss.

Switzerland is a country of great mountains where there are green valleys, high rocky peaks, miles of snow and ice, torrents of falling water, and laughing, rushing streams that flash in

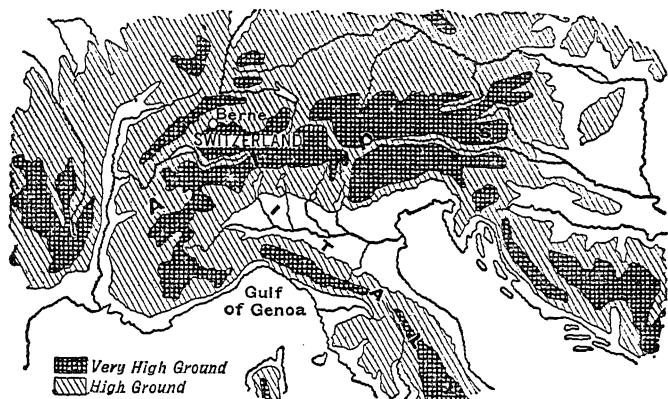


FIG. 40.—MAP TO SHOW THE ALPS.

the sunlight. At the foot of the mountains, where it is warmer, grapes can be grown, but upon the tops of the peaks there is nothing but white shining deserts of snow and ice. The higher you go, the poorer the soil, the colder the air and the worse the roads.

There are villages in the valleys, and towns like *Berne* out on the lower land to the north, but a great many Swiss are farmers. In

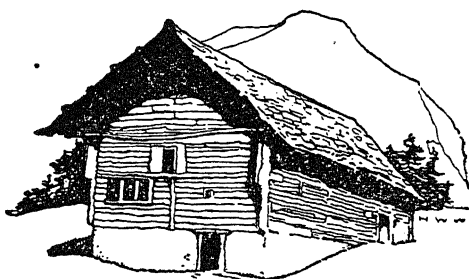
the lowest valleys in Switzerland it is warm enough to permit the growth of some grapes and other fruit, but in most places it is too cold. In the higher valleys are fields of oats, barley, and rye, the grains that can stand much cold and wet. Higher still there are no trees or fields and here we find grassy slopes where cattle can be reared. At last we come to the ice and snow where nothing grows at all.

It is difficult for the Swiss farmers to grow enough food: there is so little flat ground. On the hillsides, as soon as the soil is ploughed it gets loose and the next heavy rains tend to wash it away and leave nothing but bare rock. To stop this, walls are built along the hillside and the space between the wall and the hillside is filled with earth which the peasant has to carry to the spot in baskets. He has first to make a field with his own hands before he can begin to grow food. And when the field has been made, he has often to bring fresh soil, and he has to pay continual care to his walls, for if they fall down, the field will be washed away into the valley below.

On the high grass lands animals are reared. These high meadows are called *alps*, a word which has been applied as a name to the whole of the mountain ranges in this part of the world. The chief animals reared are cattle, goats, and sheep. The grass on the alps is short but rich, and the cows that are fed on it give better milk

than those fed in the valleys: it is of these cattle that we think most when we hear of Switzerland.

Dotted about the alpine fields are little wooden houses called *chalets*, where the shepherds live all through the summer. Here the men and animals stay till the cold voice of winter calls them all home again. The day of departure from the village for the high pastures is a public holiday. Everybody gets up before dawn and even the animals themselves seem to be infected



A SWISS CHALET.

with the spirit of merriment, for they are glad to get out of the sheds and stables where they have been kept all the winter and to regain their liberty and a supply of fresh grass. They caper with joy, and careful watch must be kept over any animal that it is desired to retain in the valley, for if it once gets loose it will bolt after its companions.

The milk cannot be brought into the valley every day, so it is made into cheese which is brought down, in great loads, in the autumn.

Some of the milk is condensed and sold to us in tins as "Swiss milk," some again is used in the manufacture of milk chocolate.

It is only during the summer that the animals can be fed in the open. During the winter they must be kept in sheds and fed on hay and grain. And so while one set of people is tending the herds in the mountains another is busy in the valley growing the winter food of hay and grain. Twigs and leaves are also stored up for the goats. The amount of grass in Switzerland is so small that it is impossible to allow any of it to be wasted. Hence it is cut when it is only three inches high; in this way three crops of short hay may be obtained in a good season. Scarcely a blade of grass escapes, and in places where even the sheep and the goats cannot go, the peasant climbs with iron hooks on his boots to cut grass a handful at a time. Later on in the year he brings it all down on a sledge.

Amongst mountains there are often cloudy days, much rain, and heavy dews and it is not always easy to dry the grass. When the peasant thinks the day is going to be fine, he cuts a small quantity of grass, and, during the day, his wife and children toss it over and over in order to dry it quickly. In the evening they tie it into bundles and carry it to the barns. Quite frequently grass can be seen drying on poles, hung on the sunny side of the house.

Between the fields and the meadows there are forests of firs and pines, the wood from which is used in the manufacture of furniture and houses, and for the supply of winter fuel.

The homes of the Swiss are large and comfortable. They are broad and long but not too high, and they are so built that they can stand against the wildest storms that come from the mountain heights. The lower part is of stone from the mountains; the upper part is of wood from the forests. In the stone part are the cellars; at the back are the stables and cow-houses; in the upper part are the rooms where the people live. The roofs, like those in the



CUTTING HAY ON THE MOUNTAIN SIDE.

Japanese houses, are weighted with stones to prevent them being blown off by the winds, and they project over the sides to give protection from rain and shelter from sun. The doors and windows are often placed at some height above the ground in order that they may not be blocked by snowdrifts. The furniture inside

the kouses is strong but simple and is made at home or by the village carpenter and chiefly during the winter, when the deep snows put an end to all farming operations.

Little meat is eaten, except on Sundays, but there is always plenty of milk, butter, cheese and bread. Clothes are often made of wool



PINE WOODS, SWITZERLAND.

obtained from the peasant's own flocks and spun and woven and made into garments at home.

As the soil and the weather do so little to help man in a country like this, he has to do all the more for himself. In the summer the farm, the forest, and the meadow take up all his time and he is busy enough, but during the long winter there is not much work except feeding

the cattle, and that does not take very long. A great deal of the time that is to spare is given up to wood carving, the making of furniture, the repair of implements and so on. Much of the beautiful wood carving is sold to the thousands of tourists who visit the land in summer.

These tourists, who are attracted by the beauty of the mountain scenery, have provided the Swiss with new occupations in comparatively recent years. In numerous hotels the Swiss supply tourists with excellent food and shelter; in order to get from one place to another motor cars and other vehicles are lent out on hire and, for the adventurous who wish to scale the uplifted summits, there is a specially trained set of guides. These guides know all the safe and dangerous routes to the peaks to which they act as guides, and are noted as much for their presence of mind, and their resourcefulness in times of peril, as they are for their skill and pluck.

There comes a time when there is no longer room enough in the valley for the people who have grown up in it; many are compelled to go to other countries to earn their living, and there is perhaps no land in the world where Swiss are not to be found at work. Even those who stay at home in the summer frequently go to other lands in the winter when there is so little to do on the farms. But even if they leave home for some months or years they always look forward to returning at last to their narrow valleys and snow-capped mountains.

CHAPTER XXIV

THE SAILORS OF THE NORTH

PEOPLE are always interested in sailors and there has been a good deal in this book about them. There were the Arabs who long ago brought the spices from India. Sailors from Venice and Genoa voyaged in the Mediterranean sea and carried the pepper and other spices which they obtained from the Arabs so that people all over Europe could get them. Then the Portuguese and the Spaniards, taught by the Mediterranean sailors, found their way to America and the Indies in their desire to obtain the valuable things which were to be brought from those distant lands. . .

But so far we have said very little about some people who were far better sailors than the Spaniards or the Portuguese, and in this chapter we are going to tell of the *Norwegians* and the *Dutch* and, of course, the *British*.

In the north-west of Europe it is never very cold and it is never very hot. It is never so cold in winter as it is in Canada or in the east of Europe. In all the northern part of North America

the ground is frozen every winter for a long time. The same is true of Eastern Europe. The north-eastern coast of North America is frozen and no ships can approach the land for months. Yet none of the harbours of Britain have ever had enough ice in them to prevent ships entering. The lands on the other side of the English Channel and North Sea are also open to ships all the year round and even the coasts of Norway

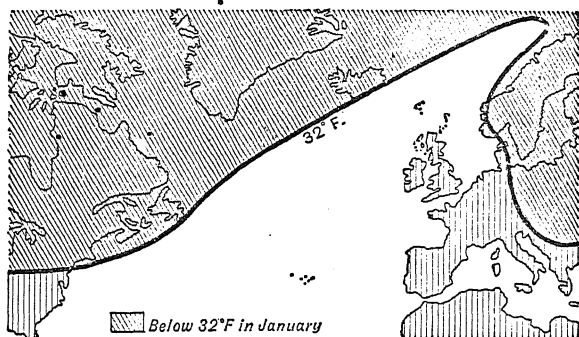


FIG. 41.—MAP TO SHOW THAT IT IS NOT SO COLD IN BRITAIN DURING WINTER AS IT IS IN CANADA AND EASTERN EUROPE.

are usually free of ice. This is one very great advantage possessed by those countries.

Another advantage is that it is not too hot to work in summer: it is not like India or most of South America and Africa or parts of North America. Over a great portion of the world people are not able to do much hard work in the hot hours of the summer days; but in Britain, Norway, Holland, and France people are able to work hard all the year round.

A third advantage is that the seas round the north-west of Europe, though deep enough to float the largest vessel, are shallow enough to allow fishermen to catch the fish with trawl and net and line. It was one of the advantages of

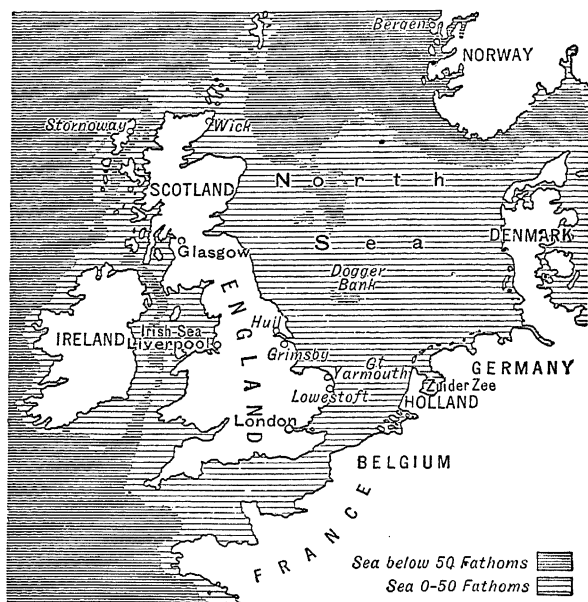


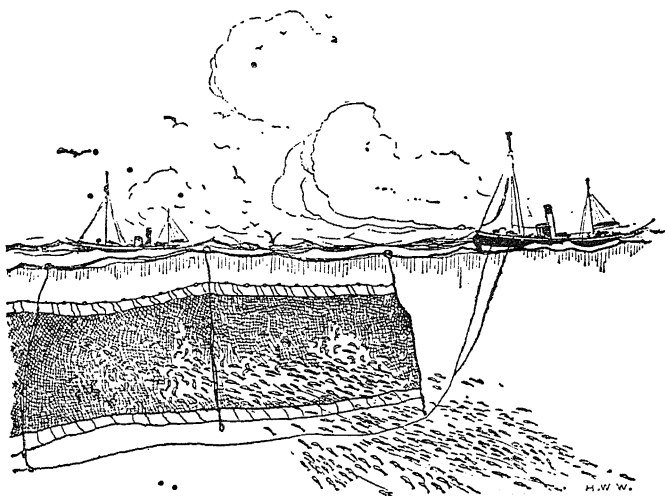
FIG. 42.—MAP TO SHOW THE SHALLOW SEAS OF NORTH-WEST EUROPE.

Venice that the Adriatic Sea was shallow and the early settlers there could catch fish.

Fish that swim near the surface, like the mackerel and herring, are caught with a drift-net. This is let down into the sea and forms a kind of wall or fence. Heavy weights keep the bottom down and big corks at the top keep it

floating upright. The fish swim up to the net, try to get through, and are caught by the gills in the meshes of the net.

Fish that live at the bottom of the sea, like soles and plaice, are caught in a net shaped like a bag. The net is dragged along by a boat called a trawler. Some trawlers are sailing

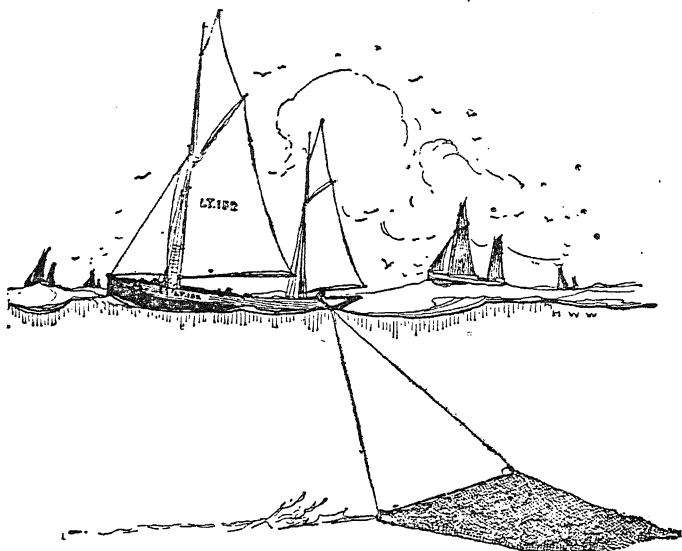


FISHING WITH A DRIFT NET.

vessels and send their fish to market by swift steamers that come to them to collect what they have caught. Others are themselves steamboats, and bring their own fish to market.

Codfish are caught on a line which may be as much as nine or ten miles long. The line has hooks some feet apart and a long one might have as many as 5000 hooks on it.

All those ways of fishing can be used best when the water is not very deep. The seas round North-West Europe are really very shallow, the North Sea especially so: in the centre is an area even shallower than the rest, called the Dogger Bank, where great numbers of fish are caught.

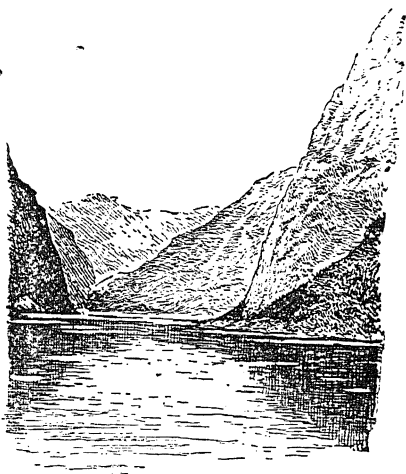


FISHING WITH A TRAWL.

Very many Norwegians are sailors. The Vikings were Norwegians who lived round the long narrow *viks* or *wicks* or *fiords*. These fiords have steep rocky mountains all round them and there is little flat land that can be used for fields, so the Vikings tried to catch some of the fish which lived in the quiet waters of the fiord.

They could make boats from the wood to be had from the forests and they learned how to manage them, so that by-and-by they ventured out into the open ocean and sailed across to Britain and the coasts of the Continent and perhaps even crossed the Atlantic and reached the shores of America long before Columbus.

Now a days many fish are caught off the Norwegian coast. Cod—from which cod-liver-oil is made — are caught off the *Lofoten* Islands, and *Bergen* is a great fish market for all kinds of fish. If you go to Bergen you see many fishing boats in the har-



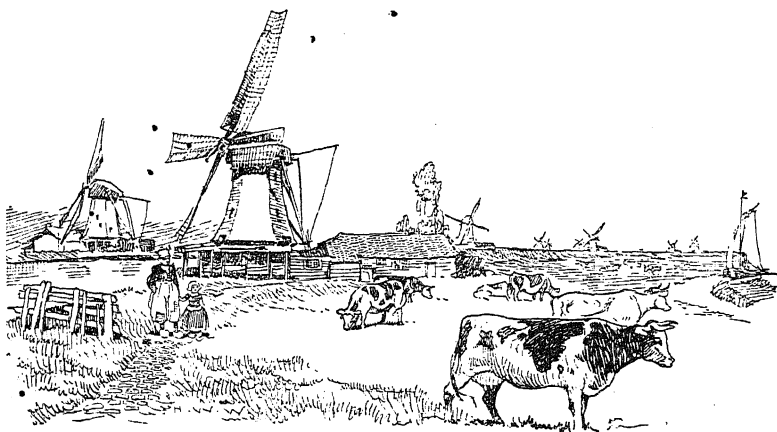
NORWEGIAN FIORD.

bour, fish barrels on the quays, and buildings where fish are preserved before they are exported. You may even buy live fish from the stalls in the market place. The fishmonger lifts the one the customer wishes to purchase out of the tank where it is swimming with many others, so that it is quite certain to be fresh.

A little oats and barley and rye and potatoes may be grown in Norway and some cattle and horses and goats may feed on the grass, which is cut and dried quite as carefully by the Norwegian peasants as by the Swiss. But the only things that are sold abroad are timber and fish, so many Norwegians are sailors and use their ships to carry goods for other nations, and brave sailors they are too.

Holland is very different from Norway. Holland is very flat, Norway is mountainous. Norway is rocky, while in Holland scarcely a stone is to be seen. But Holland is very small ; a great part of it is below the level of the sea and the rivers, and is only kept free of water by the aid of dykes and by pumps worked by windmills which lift the water from drains or canals into the rivers. Though the Dutch make the most of their small land and grow large crops by means of spade culture, yet the land cannot grow enough for all the people and many Dutchmen are sailors. They, too, learned of the sea by fishing, first in the South Sea or *Zuider Zee* and then in the shallow waters of the *North Sea*. They too became explorers and sailed all over the world. Sailors from Holland first sailed round Cape Horn and gave it its name. They sailed round the Cape of Good Hope and founded thriving settlements in the East Indies. From *Java* they still bring back india-rubber and coffee and sugar.

They are not only fishermen and sailors who bring goods to their own country; they carry goods for other nations. Holland is better situated than Norway for trade because it is convenient to land many things in Holland that are really being sent to places in the interior of the continent. By means of the *Rhine*, boats can sail far inland, so that the ports of *Amsterdam*



DUTCH SCENE WITH WINDMILLS.

and *Rotterdam* are much larger than the ports of Norway.

And then there is *Britain*. There was a time when no sailors lived in Britain, but that was a long time ago. In Britain, though there are a great many people who are neither fishermen nor sailors, nearly every one has at any rate seen the sea at one time or another. The

coasts of the west of Scotland are like those of Norway : there are long narrow bays and there is little land which may be cultivated. Men there became fishermen as did the Norwegians. *Stornoway*, in the north of the Island of Lewis, is still a fishing town. The east of Britain is near the shallow seas that were open to the Dutch ; there, as near the *Dogger Bank* as possible, are *Yarmouth* and *Lowestoft*, while farther north are *Grimsby* and *Aberdeen* and *Peterhead* and *Wick*.

Fishermen are "trained from boyhood to 'scour' the sea, familiar with the sea bottom and all the intermediate levels as no other seamen are, trained to achieve the impossible, gamblers all—knowing the game backward—imperturbable, coolheaded, fearless. Such were the men who singed the Spaniard's beard and harried the French under letters of marque. And now that the days of sail are almost over there is left no school of seamanship to compare with our deep-sea fishing fleets."* So again it was in fishing that British sailors learned their trade. They learned how to cross the ocean, they came to know how the winds blew, westerlies and trade winds and monsoons. They followed the Spaniards to America, the Portuguese and Dutch to the East. The Pilgrim Fathers sailed for New England, the East India Company

traded with India. Ships were improved in shape so that they could sail more swiftly : the fast clippers brought tea from India, and now on all the seas of all the world are found British ships and British sailors.

But "the days of sail are almost over." Nowadays ships are moved by steam, even fishing vessels. To drive vessels by steam coal and oil are used, and it is another advantage possessed by some of the lands of North-West Europe, France and Germany and Britain, that coal is found in them. All along the northern edge of the highlands in the centre of Europe coal is mined and along the edges of the highlands of Britain it is also mined.

And not only is coal used to drive vessels : it is used to make more things than can be used at home, things of cotton and woollen and iron. These are carried by our ships to other lands. These ships require harbours and docks and the various appliances for loading and unloading, so that British ports have become as large as any in the world. From *London* and *Liverpool*, *Hull* and *Glasgow* are sent away the manufactures of Britain, and to those ports are brought in return the products of lands all over the globe. The ships can sail far inland, because the tides keep the estuaries clear of mud as they do also the estuaries of *France* and to a less extent those of *Holland* and *Germany*.

There are many French fishermen and sailors

too. The fishermen sail even to the banks of Newfoundland. There are French colonies in Asia and Africa and South America, and French vessels bring their products back to Europe.

No sea in the world has so many ships on it as the seas round North-West Europe. They come together from all parts of the world and depart again to North America and South America, to Africa and Asia and the isles of the Pacific, as well as countries nearer home. The lands would be all separate were it not for sailors, and especially for the sailors of North-West Europe.

CHAPTER XXV

THE BRITISH EMPIRE

WE have now seen something of the world and of how people live in different parts, and among the things which we have noticed is that there are very many different ways of living, of finding one's food, clothes and happiness.

In this last chapter we are going to speak of the British Empire. British sailors have taken their ships—"swift shuttles of an Empire's loom"—to all parts of the world that can be reached by sea. In all kinds of places, scattered all over the world, there are bits of the British Empire. Some of them are great regions, almost continents, others are only a few square miles in area, but between them they include an almost endless variety of conditions and manner of life.

Already something has been said of Canada and of India. We have seen how wheat-farmers and fur-traders live in the centre and north of Canada, and a little thought will show that wheat-farming and fur-trading are only two occupations out of hundreds possible on the great area of Canada. In India we have also seen that there are not only people with different occupations but there is a medley of races who wish to live

in different ways. In Australia and South Africa there are also people who live differently from each other and from those in other lands.

Let us first compare *Australia* and Canada. They are about the same size, so enormous that each of them is only a little less than the whole of Europe. In almost everything else but size they differ. A great part of Canada is too cold for many people to live, but it is nowhere very

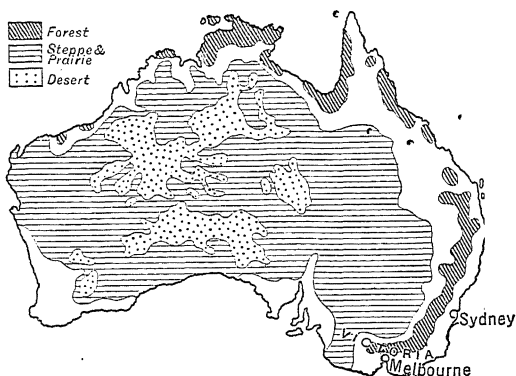


FIG. 42.—MAP TO SHOW THE FORESTS AND STEPPE LANDS OF AUSTRALIA.

dry ; a great part of Australia is too dry for people to live, but it is nowhere very cold. When it is winter in Canada and very cold, Australia is having a hot summer. In Canada there are great forests ; in Australia there are few trees and these are mostly gum trees which give little shade and which look as if they were all branches ; they have few leaves and these hang straight downwards. The native animals of Australia

too are not only different from the fur-bearing animals of Canada, but are different from the animals of the rest of the world. Elsewhere there is nothing like the kangaroo and the duck-billed platypus, an animal that lays eggs like a bird.

Much more important is the fact that Canada is little more than a week's journey from Britain ; people can easily come home for a holiday, while Australia is so far away that there is no time during ordinary holidays to come back to "the old country." *New Zealand*, of course, has the disadvantage of being still farther away.

Australia is so large that while some parts are dry others are wet, while some are very hot some are moderately cool. The north of Australia is wet and hot, like the Indies, and few white people like to live there, while in the south, in *Tasmania*, there is a delightful climate something like that of the south of England. Some parts of Western Australia are so dry and hot as to be almost a desert, though they are not so hot and dry as the Sahara ; elsewhere the land is rather like the steppe. It is natural that comparatively little of Australia is cultivated ; it is too dry. It is, however, wet enough over a large area to grow grass, and a great number of Australian farmers are sheep-farmers. The *runs* or farms are of great area, some of them of the size of some of the smaller English counties. The sheep came originally from Spain, where we

have seen it is also dry and hot; the wool of these sheep is much finer than the wool of English sheep.

The dwellings of the settlers and especially of the early settlers were lonely and far from pretty. The post might come once a week and even then the letters might have to be fetched fifteen to twenty miles. The houses would have plain boards for sides and roofs of corrugated iron; they were shaded by no trees and had no gardens. The life was hard and only brave men and women could stand it. The food of the settlers consisted of mutton and home-baked bread washed down by tea at every meal.

Shearing time supplies the great variety in the yearly round. On a large station perhaps a quarter of a million sheep may have their wool clipped and this may take seventy or eighty shearers working hard for six weeks. It is not easy work; the hand is strained with constantly working the shears, and as the work has to be done in a stooping attitude, the men become very tired after each day's work.

The shearing shed is a busy scene with the sheep, some thousands of them, awaiting their turns, and the shearers and their assistants who pick up the fleeces, fold them, put them into bales and send them off to reach, eventually, the mills of Yorkshire.♦♦

Many men who afterwards became sheep-farmers first went to Australia to dig for gold

which was found in Victoria; the houses of the mining towns were of the same unlovely kind. They were perhaps even worse, for the roads were thick with dust in summer and almost impassable in the wet winter.

Along the east coast, where there is more rain brought by the south-east trade winds and where people have been living longest the farms are much smaller and farmers are now producing other things besides wool and mutton, sugar in the wet north and fruit in the south, where the climate is more like that of the Mediterranean lands where fruit is grown. Here the villages have now a water supply, the ugly shanties are giving place to trim houses, the streets have avenues of eucalyptus and other trees. Here too there are the great cities of *Sydney* and *Melbourne*, each on a magnificent natural harbour. That on the shores of which Sydney is built is probably the finest in the world.

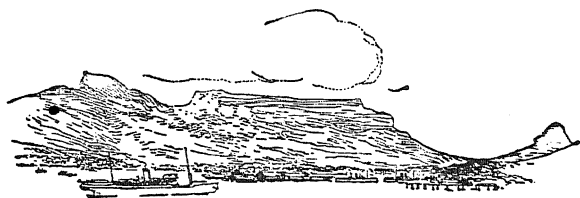
And what can we say of the portion of *South Africa* which is included in the British Empire? It is not nearly so large as either Canada or Australia, being only about a quarter of the size of either of them, but even so it is as big as eight United Kingdoms, so it cannot be called small, and there are opportunities for many different ways of living. It is more like Australia than Canada. The land of the west is very dry, so dry as to be called a desert, the Kalahari Desert. There are also wide stretches of grassy

steppe land, also like Australia, though it is called by a special name, "*the veldt*." There are, too, much smaller areas like English park-land, while trees like the cork and oak, and fruits like the vine are grown in the very south. Such forest land as exists is along the east coast where rain is brought by the south-east trade winds. "Oh!" you say, "that is just like Australia; then there will be sheep-farms and the other things which we hear of in Australia." That is partly true, but there are many ways in which South Africa differs from Australia. The sheep-farms are certainly there and a good deal of wool is sent across the sea to Britain. There are great gold mines near Johannesburg too, and that reminds us of Australia.

But in Australia the people though they live differently are almost all British, while in South Africa for every European there are four people who are not Europeans. Most of these are like the dark-coloured Zulus we read of in Chap. XIII., but they speak so many different languages and dialects that the country is more like India than Australia in the mixture of peoples. Even in India the white people are British, but in South Africa only half of the Europeans are British; the other half are of Dutch descent, and these not only speak a different language but have different customs and habits.

There are Zulu kraals or villages of huts and lonely houses of the Boer or Dutch farmers:

yet there are cities like *Cape Town* or *Johannesburg* which are much like cities inhabited by Europeans in other parts of the world, while even in Southern Rhodesia, where there are twenty-five natives to every white person, there are towns with public supplies of water and electric light, with telephones, libraries, museums, hospitals, theatres, churches, and schools. Through South Africa great railways run, but trek carts drawn by eighteen or twenty oxen or mules or donkeys are used to cross the steppe



CAPE TOWN.

lands, and in some forest districts there are no roads but only native paths a foot wide along which there wind lines of native porters carrying goods on their heads in bundles that weigh fifty or sixty pounds.

People live in many different ways in South Africa.

There are many other parts of the Empire, some large like Nigeria where the negroes of the Sudan live (see Chap. XIII.), or tiny pieces of land like Gibraltar or Aden, or small islands in the ocean like St. Helena or Malta.

In each of them there are people who think of where they live as "home" and think with affection of the things they know best. The Englishman thinks of roses in the hedgerows and trim gardens, the Scotsman of heather on bleak moorlands, the Irishman of the scent of bog plants. The Canadian takes the maple leaf as his emblem, the Australian chooses the wattle. New Zealanders and South Africans, negroes and Hindus, each have certain familiar sights and sounds which make them feel at home and to which they return with a feeling of relief and satisfaction.

We sometimes hear it said that Canada, or New Zealand or some other country is "ours" or that it "belongs" to Britain. This is not true even if we are thinking of the land called Canada, and it is even less true if we understand that the Empire is not made up of land but of people. It is made up of the people of Britain and of Canada and India and Australia and the rest. The Empire is not "ours" but "us." And what keeps us together? Good will and knowledge. That is one reason why we learn geography.

"Far and far our homes are set round the Seven Seas;
Woe for us if we forget, we that hold by these
Unto each his mother-beach, bloom and bird and land—
Masters of the Seven Seas, oh, love and understand."